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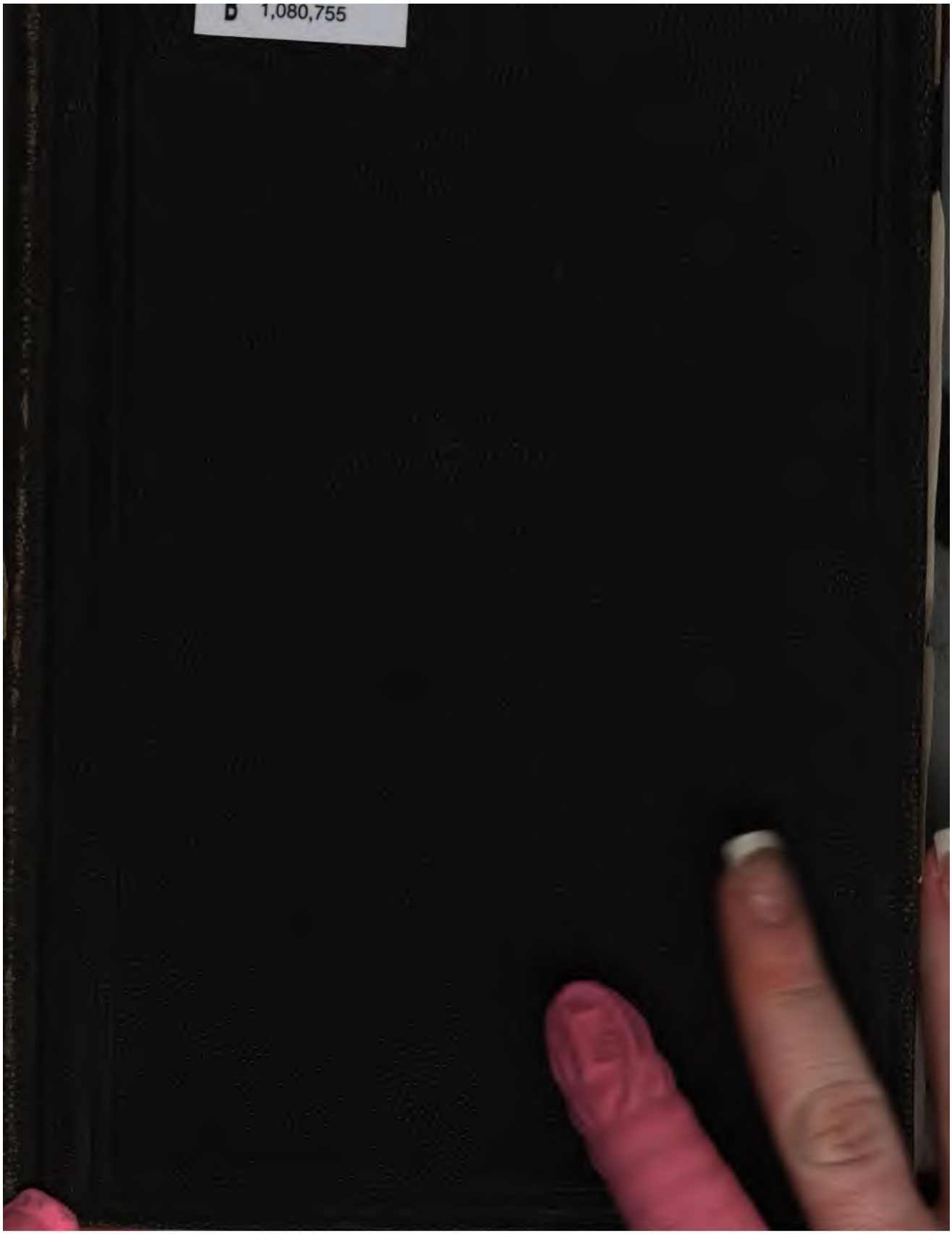
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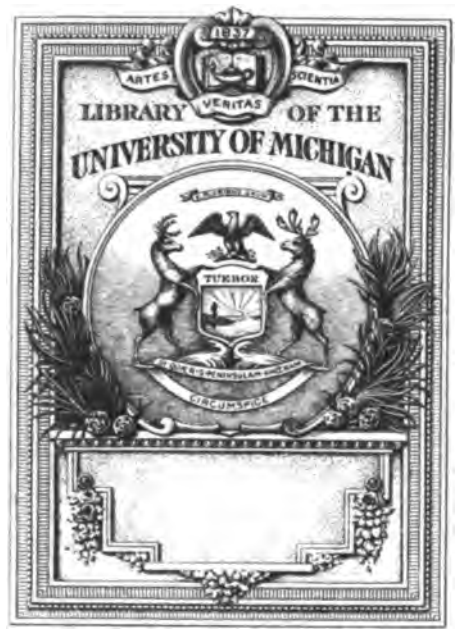
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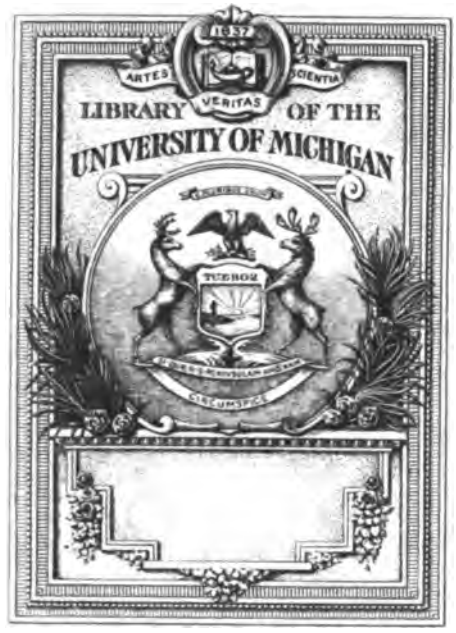
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LETTER OF TRANSMITTAL.

STATE OF MICHIGAN,
DEPARTMENT OF PUBLIC INSTRUCTION,
Lansing, December 31, 1900.

To His Excellency, AARON T. BLISS,

Governor of the State of Michigan:

SIR—In compliance with the provisions of law, I have the honor herewith to transmit through you to the Legislature, the annual report of the Superintendent of Public Instruction, together with the accompanying documents for the year 1900.

Very respectfully,

Your obedient servant,

JASON E. HAMMOND,

Superintendent of Public Instruction.

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SUPERINTENDENT'S REPORT.

On January 1, 1897, I assumed the duties and responsibilities of the office of Superintendent of Public Instruction; and in consequence it has fallen to my lot during this last four years of the nineteenth century to take an active part in the educational work of our great state.

These duties were assumed with some hesitation and no little anxiety. Four eventful years are past; and December 31, 1900, closes my term of service as head of this department. These four years have been busy years, and I trust they have been profitable to the schools of Michigan.

At all times it has been my endeavor to increase the efficiency of our educational system, and my full time has been given to the transaction of official business. Retiring from office with a consciousness of having done my best, I shall see my official burdens transferred to other shoulders with a sense of relief, and yet shall always recall with much satisfaction these years of pleasant relations with the splendid men and women who are the teachers and officers in our public schools and educational institutions.

In this report I shall not attempt to comment very fully concerning the many phases of educational work in our state. The report of 1897 gave especial attention to rural schools, the report of 1898 to textbook facts and figures, the report of 1899 to the recently organized "Normal School System" and the maintenance of day schools for the deaf. This report will make prominent the idea of manual training as an educational factor, and I most earnestly call attention to this discussion of an educational feature destined in a few years to give city and village pupils something of substantial value in place of some things of questionable value now in our graded school curriculums.

Except within narrow limits this investigation could not have been carried on without the aid of superintendents of schools and directors of manual training. We know from experience how much labor is often involved in answering a list of apparently simple questions, and desire here to thank all who have in any way contributed to the furtherance of this work. And especially are thanks due to those in charge of the schools visited—several of whom gave considerable valuable time—for the uniform courtesy and assistance to our representative.

From our associations with this class of educators, we have concluded that manual training creates a spirit of educational enthusiasm that carries success upon its very breath.

First of all I would call attention to what may be considered a brief resume of the common school situation or, speaking more definitely,

that part of our work belonging to the County Commissioner of Schools, and, through him, to the Department of Public Instruction.

THE COMMON SCHOOLS.

The common school is now and ever will be the bulwark of liberty and the place where a large majority of our citizens are trained for life's service.

High schools, business schools, academies, colleges, and universities, all exert an important influence. Each and all are indispensable to the development of a strong educational system; yet we make no mistake in emphasizing the importance of the "people's colleges"—the little schools in the country and villages throughout our state and nation. In some respects we do err in comparing unfavorably the work done in country and village schools with that done in the high school and the preparatory departments of our colleges; and we must beware lest the patrons of these common schools themselves come to undervalue the privileges they enjoy, and seek for that which is more expensive and less desirable.

For my position regarding the rural schools, I refer the reader to my report for 1897. The comments I now make are intended more as an exhortation to the friends and patrons of the common schools than as advice to those who will succeed me in office or to members of the legislative branch of our state government.

TEACHERS.

Unquestionably the most important factor in a good school is the teacher. With a tactful, scholarly, and energetic person as teacher, a good school is assured, even though other conditions are not what they should be. The true teacher is enthusiastic, earnest, and faithful.

No certificate should be issued to a person who is young and immature, and no person who is nervous, ill-natured, or discouraged, should ever think of taking a position where young minds are influenced and young lives shaped for good or ill. The lives and characters of our boys and girls are too precious to be trifled with by immature teachers, or by persons who long since should have retired to the farm, factory, or kitchen. It is my opinion that the age limit should be raised, and that a person twenty years old is young enough to commence as teacher. It is true that many good schools have been taught by those under twenty years of age, but who can estimate the failures and the injury done by youthful experimenters who have assumed the sacred office of teacher! On the other hand, I cannot urge school officers too earnestly to spare the children under their charge the misfortune and affliction of a bookish, antiquated, ill-humored teacher, even though they recall the days away back in the sixties, seventies, or eighties, before misfortunes and afflictions came, when that same teacher, now past her period of usefulness, was looked upon as the foremost educator in the neighborhood.

NORMAL TRAINING.

As a state we have only just commenced to provide adequate facilities for the normal training of our teachers, and the demand will not be

fully met until one thousand persons yearly graduate from our state normal schools and our denominational colleges. Our normal schools are now doing great work, yet only a small percentage of the teachers now employed have been thoroughly trained for their work. When we consider that there are 16,000 teachers now employed in Michigan, and that this number changes every five or six years, we soon realize that even 500 graduates each year from our normal training schools is a small band to accomplish the work before them.

But school officers are more and more alert as to the professional and scholastic qualifications of the teachers who apply for positions, and I trust the day is not far distant when the standard of the profession shall be so high that the first question asked of a would-be teacher shall be whether sufficient stress has been put on the idea that special training for the work is indispensable. Nor this alone, but is he fully equipped, by education and professional zeal, to become a *leader* of young people?

SCHOOL BUILDINGS.

The friends of education should not forget to keep prominently before the tax-payers the great importance of providing suitable buildings for school purposes. Recent reports of this department have gone somewhat exhaustively into the subject of school house architecture, and we now have in the store room of the department numerous pamphlets and reports concerning it. These may be had for the asking. It is therefore not essential that it be discussed fully in these pages, yet I cannot refrain from again calling attention to this matter in a general way.

I have often stated at farmers' institutes and school officers' meetings my belief that the school district should be to the expense of so building or repairing the school house that the pupils may breathe pure air in a properly ventilated room, and study their lessons in a room heated and lighted in such a way that health shall not be impaired. This work on the part of the patrons of the school should be done at once, even if it becomes necessary to shorten the school year by a month to save money for the extra expense. Few pupils are obliged to leave school bcause of over-study, but many abandon their studies and swell the army of the uneducated because their health has been undermined by a poorly heated, ill-ventilated school room. More head-aches are caused by badly arranged lighting than by hours of hard study.

Teachers should be more zealous along this line, and help to furnish building committees and contractors with data leading to the consideration of this very important and much neglected subject.

TEXT-BOOKS.

The text-book has become a very important factor in the management of our public schools. The enrollment during the present school year will reach 500,000, and to this number of young people there must be furnished books. The text-book laws of the state are brief and may be easily understood by the humblest school officer. Every person having an interest in a school has had occasion to learn of the cost of books. In my judgment a very slight amendment to our present free text-book law is all that is necessary to solve the problem and place Michigan out of danger along this line.

Publishers, with commendable zeal, have so improved our text-books that, to those who have watched the improvement during the past twenty years, the progress is truly marvelous. Our text-books are first-class, and school officers have little to complain of as to quality.

Our pamphlet entitled "Text-Book Legislation—Facts and Figures" contains valuable information, and quite a large number are still in the department store room for distribution to those who apply. But in its perusal one should remember that the Uniformity Law has been repealed, while the Free Text-Book Law of 1889 still remains.

This law should be amended so that the question of furnishing free text-books may be raised by a tax-payer at any annual meeting. It should also be recast, and some bungling and ambiguous sentences corrected or removed. With these slight changes, our laws on this subject are good enough and should not be disturbed by the legislature.

FREE TEXT-BOOKS.

The free text-book plan has been thoroughly tried in Michigan, and under the law of 1889, 38 per cent of all the pupils enrolled in our public schools are furnished with text-books free. Fifteen of our largest cities furnish free text-books to all of the first eight grades, and the city of Muskegon furnishes them to the sixth grade inclusive. Many country schools also furnish them. Wexford county has 40 free text book districts; Missaukee, 38; Saginaw, 37; Bay, 25; Menominee, 24; Osceola, 23; Kalkaska, 22; Huron, 21; Presque Isle, 20; Ottawa and Mason, each 19; Cheboygan and Clare, each 17; Antrim, 16; Mecosta and Manistee, each 14; besides a number of other counties from 5 to 10 districts.

In the entire state there are 671 districts, in which were enrolled last year 56,779 school children. More than double that number, or 134,616, are supplied with text-books in the 16 free text-book cities of the state. It will thus be noticed that in this, as in some other respects, the children of the cities are first to receive the assistance that comes through improvement in our school system.

This plan has become so firmly fixed in some localities that I prefer to direct those interested to the commissioner of schools of the counties above mentioned for data regarding its success.

Before leaving this subject I would call the commissioner's attention to the importance of the text-book question. There are many excellent books now published by reputable firms, and school officers should be advised by a conscientious commissioner in making the text-book adoptions. The commissioner should do his utmost to aid his school officers in this regard; and he can, by intelligent effort, secure substantial uniformity in his county. At the same time he can save the people from the corrupting influence of certain agents who go from district to district, creating confusion and interfering with the county plan of supervision. The people honor the commissioner who keeps the text-book agent out of the country school district.

APPARATUS AND SCHOOL SUPPLIES.

Again I urge the commissioner to carefully safeguard the interests of the schools by using their influence with officers regarding the purchase of school supplies.

The school law defines the articles that are considered "necessary appendages," and every district should be provided with all the articles thus enumerated. These may all be purchased at reasonable prices, and commissioners and school officers should work together in the selection of all needed apparatus. They should also unite in boycotting every agent who goes about selling pieces of apparatus at fabulous prices. Numerous instances have been brought to my attention of from $35 to $45 paid for apparatus, when $10 wisely expended would serve the district better.

UNWISE AND UNNECESSARY TAXATION.

There has been much agitation in Michigan during the past ten years on the subject of taxation. Much of this has been occasioned by inequalities in our system of taxation; and, in view of recent events, the taxpayer should not be blamed if he at least makes inquiry concerning some of the things which add to the burden of taxation.

In this report we claim only the right to discuss taxation from the stand-point of a school officer, and therefore confine our comments to school taxation, and especially to the money raised for the support of country schools. On this point several questions arise:

Teachers' wages are much below what they should be; school officers do not always receive a fair compensation for their services; the school buildings are none too good, and the apparatus furnished is generally less than is needed. Withal, the patrons of rural schools are economical people and usually watch expense carefully, and the library books are generally provided without adding to the rate of taxation. The query, then, is—what is meant by "unnecessary taxation"? Let me enumerate:

1. Money paid to young and immature teachers is in a large degree wasted.
2. Money paid to strangers for high priced apparatus, is more than half wasted.
3. Much of the money paid for fuel to heat old and poorly enclosed school rooms, is wasted.
4. Frequent change of teachers and the confusion resulting therefrom wastes both time and money.
5. Frequent change of text-books at the solicitation of agents and without the conscientious advice of the commissioner, causes considerable unnecessary expense.

These questions have been already discussed, and I pass to the consideration of some measures which, if adopted, would save some of the money raised by taxation, and at the same time secure better results.

SIZE OF SCHOOL DISTRICT.

In the first place there are too many school districts, and therefore too many school houses and too many teachers employed.

As the country grows older, the swamps and forests disappear, the roads become better, and the means of transportation easier. Yet notwithstanding the fact that school facilities have greatly increased, the number of children of school age in many districts has constantly decreased. In many districts where there were fifty school children thirty years ago, there are now scarcely half that number; and the

prospect is that schools will not regain their former enrollment unless the territory of the districts can be very much enlarged.

Ordinarily no township should contain more than six school districts; eight should be the maximum. A country school of only ten or a dozen pupils is too small to support a teacher. It is too small for the best work of a teacher. It is too small for the best work of the pupils themselves. Suppose, then, that a county be organized with just seven districts to a township, a county of 16 townships would contain 112 districts. I take for example several counties containing 16 townships, each approximately six miles square, or having 36 square miles; the list will give the reader something to think about:

Barry county has 146 districts; Kalamazoo, 138; Eaton, 146; Ingham, 136; Livingston, 135; Clinton, 129; Ionia, 143; and Gratiot, 132.

In these eight counties there are 1,105 school districts where 900 would be sufficient. In other words, about 20 per cent of the cost of the schools could be saved if the districts were fewer and larger.

Let us now compare some of the counties having twenty or more townships:

Lenawee has 197 districts; Washtenaw, 167; Jackson, 157; Calhoun, 164; Kent, 207; Oakland, 207; Allegan, 184; and Genesee, 160; the total number being 1,443. Two hundred forty-three of these districts could be spared and still enough remain to accommodate all the pupils.

Our school districts should be reorganized and many of them abandoned. Township boards of inspectors should enlarge districts instead of making new ones. The legislature should repeal that part of the school law limiting districts to nine sections of land; and grangers' and farmers' clubs, when protesting against the inequalities of taxation, should commence at home and regulate some of the inequalities fostered by themselves.

Without further comment I refer the reader to an extract from the report of the Commissioner of Menominee county, found on page — of this report.

DOUBLE TAXATION.

By this I mean the paying of school taxes at home and also of tuition to the neighboring city or village.

*The tax-paying farmer, admitting that his home school does not meet the demands of his sons and daughters, pays his school tax grudgingly and straightway sends his young people to the nearest high school, thus taxing himself again to pay their tuition. He attends the farmers' picnic, the meetings of the farmers' club and the grange, listens to the speeches of agricultural-political quacks, and then signs

*The picture on the opposite page represents the young people from the farms adjoining the city of St. Johns in Clinton county. In the winter of 1897 and '98 I made a systematic visitation of county schools in about a dozen counties of the State. After completing my visits in the county I was urged to spend some time in the St. Johns schools. Here I found a large number of county pupils whose grade work was done in the rural schools, a large majority of whom were admitted on the diplomas issued by the county commissioner of schools. At my request this fine lot of young men and women, about sixty in number, were photographed, and their picture inserted in my report for 1897. To emphasize what is in my comments above, I give the cost to these young people for tuition. During the year ending June, 1897, the school board of the city of St. Johns collected $768.00 as tuition. In 1898, $1,055.25, and in 1899, $989.00. The average rate of tuition for different courses in high school was $2.18 per month, or nearly $20 for the year of nine months. Tuition for the grades is $1.44 per month, or $13 per year. It is easy to estimate that the farmers around St. Johns have paid nearly enough to the city school district in ten years to build and equip a high school of their own, where these pupils and many others less fortunate could be educated at home.

J. E. H.

COUNTRY PUPILS WHO PAID TUITION IN THE ST. JOHNS HIGH SCHOOL WINTER OF 1897-98. (See page 6.)

a petition to the legislature protesting against centralization of school management. He is told that he must oppose the idea of making the district larger, for that would be the "entering wedge for the adoption of the township unit system." He is exhorted to beware of centralization, for that would be a blow to "the little red school house" for which his orator has such reverence. The school must be kept "near the people," and therefore he often votes for the most ignorant man in the district as school officer, and opposes every movement to bring the school up to the standard of the one his children are attending in the village five or six miles distant. The little red school house—we cherish it—becomes in many places a miserable structure on a bleak hillside, with dingy walls and battered desks within. No shade, no enclosure, and no encouragement to the poorly paid teacher and her handful of pupils—a standing mockery to the educational system of a great state and pointing scornfully to the narrow and misguided policy of those who in years past have been the leaders of our agricultural classes.

Just as consistent would it be to bewail the loss of the little country post-office of ten years ago in these days of rural mail delivery, as to cling with desperation to the little school house years after it has ceased to be a factor for progress.

TOWNSHIP DISTRICTS.

There are 449 teachers and 23,966 pupils in all the township districts of the state. At the time of the passage of the law of 1891 for the organization of township districts in the Upper Peninsula, there were but eight township districts in Michigan. Four of these townships were in Upper Michigan in Alger county; viz., Au Train, Burt, Onota, and Rock River. The other four were in Lower Michigan, as follows: Green, Long Rapids, and Maple Ridge townships, Alpena county; Bangor township, Bay county.

In 1893, 67 townships were reported as organized into single school districts, and this number has constantly grown until, in September, 1898, there were 115 township districts—92 in the Upper Peninsula, 23 in the lower. All except four of the 136 districts in Upper Michigan are organized under Act 176, Session Laws of 1891, the four exceptions being those in Alger county above mentioned.

As this law applied to the Upper Peninsula only, all the Lower Peninsula townships have been established by special legislative enactment, although six of them have followed the law of 1891 in their organization; viz., Sanborn, Alpena county; Waverly, Cheboygan county; Union, Grand Traverse county; Briley, Montmorency county; Big Creek, Oscoda county; and Beaver Creek, Crawford county. The fact that 23 Lower Peninsula townships have secured the right to organize as single districts, indicates some favorable sentiment in this direction.

The last legislature passed a township district law applying to all the townships of Gladwin county. This law is Act 418, Local Acts of 1899, and many counties in the northern part of this peninsula would be benefited if this law could apply to them. I would call the attention of commissioners to this law and urge them to coöperate with members of the legislature to secure its benefits in those other counties where population is scattered and taxable lands are held by speculators.

Just here the words of Commr. Legg of Delta county are so apropos that I quote them in full:

"We have six townships organized on the unit system that are working very nicely. Heretofore much non-resident land escaped paying school tax, but they are all 'on the list' under this system. The worst enemies of the system are the lumbermen who do not reside in the county or even in the state."

HIGHER GRADES.

In farmers' meetings and agricultural journals the question of providing longer courses of study has been seriously and favorably discussed; and the classification as far as the eighth grade according to the State Manual and Course of Study seems to be approved by a large majority of the rural population. The question of providing two or more grades for the ambitious pupil, is not so easily settled and has been the subject of discussion at farmers' gatherings for several years. I therefore venture a few suggestions.

Every district school employing more than one teacher should have at least ten grades. The first eight should be the same in country and village; the two additional grades should be the same throughout the state and should be outlined by the state department.

The people are thinking, and many innovations are being accepted. Arbor Day has come to stay and the improvement of school grounds is an assured fact. The State Manual and Course of Study has secured unity and coöperation where before was confusion, and the grading of rural schools has brought about an affiliation with higher schools. Our normal schools are emphasizing the importance of normal training, and their graduates will, in a few years, be the teachers of our country boys and girls. Many people are already asking for the township high school; we predict a rapid growth of sentiment in its favor. The parents want their children at home a year or two longer, and the children need the parents. The country schools must and will keep step in the march of progress; and, in spite of obstructionists, the next decade will bring to the young people of the farm better educational advantages. To keep the boys on the farm, the community must be awake; and no community can live up to its highest possibilities and still cling to the antiquated ideas concerning the school in its midst.

RURAL HIGH SCHOOLS.

How, then, can we have a rural high school to which pupils who wish better advantages at home may be admitted without paying tuition, and what territory shall contribute to its support?

First, the unit of taxation must be the township, or the country high school can *never* come to Michigan. A law providing such a system should, by all means, be optional for each township. There are many localities in need of such a law, and the patrons would hasten to take advantage of its benefits if given the opportunity. I have known speakers at agricultural gatherings to warmly advocate the establishment of township high schools, discoursing intelligently on its benefits to the young people of the farms and urging their neighbors to activity in securing this desired result, and yet, in the same session, frantically oppose the very plan whereby it might be secured. This situation would

be amusing if it were not so unfortunate for those whose interests are at stake.

Doubtless there is much difference of opinion as to what we mean by a township high school. Let me attempt to explain, by an illustration, my notion of such a school. Take for example the township of Keeler, Van Buren county. This township has ten school houses and 273 pupils of school age, 195 of whom attended school during the year ending September 1, 1899, averaging less than 20 pupils per school. There is no large village or city within its limits or very near its boundaries. So far as I know, the inhabitants are all agriculturists. The schools are probably average country schools. I have no knowledge concerning the present condition of its school buildings. We will assume that this district has taken advantage of an optional township unit law, and has five trustees, one elected each year at the spring election, for a term of five years. (This trustee could be as well selected as the supervisor.) There are six or seven school houses in the township, and at each place one teacher with the first eight grades. At a central location is a school house having three rooms, one for the resident pupils of the first eight grades, the other two rooms set apart as the township high school, with ninth, tenth, eleventh, and perhaps twelfth grade pupils. The teachers in this high school are selected because of ability to teach the higher branches, and the principal teacher of the two is the general superintendent of all the schools of the township. Pupils of any school in the township who have passed the eighth grade, are admitted to this township high school without tuition or examination.

What, then, is the situation? The taxation over the entire township is uniform; there are five school officers where before there were 30; the text-books are uniform throughout the township; all schools use the same course of study; teachers' meetings are held at the call of the principal of the high school; a reading circle is organized and conducted by the principal; people are not paying both school taxes and tuition; there are fewer school buildings to be kept in repair; the cost of apparatus is less; the best young people of the farms remain at home two or three years longer, and are educated toward farm life instead of away from it.

True, this is an ideal condition from one man's standpoint. There are other plans just as worthy of consideration, but all are agreed that the defects in rural schools demand some heroic treatment. My only hope is that reason, and not prejudice, may govern in this most important problem.

THE COMMISSIONER'S WORK.

The importance of the work of this official has been very much underestimated. A glance at the abstract of their reports, found in another part of this report, will give some idea of the numerous tasks undertaken and the kind of service rendered. The earnest commissioner finds before him four times the work he can well perform. He must attend to grade examinations, teachers' examinations, reading circle meetings, graduation exercises, institutes, and county teachers' associations. He must deal with school district quarrels, inefficient teachers, and economical boards of supervisors, besides his school visitation and office correspondence. He must pay his own traveling expenses, and to do his

work well, must travel a good share of the time. He is the most important officer in the county, but the poorest paid and the least appreciated.

The commissioner in every county having 75 schools, should be furnished a competent office assistant at a decent salary, to help him with his correspondence and grade examinations. There should be a law passed compelling boards of supervisors to audit bills for the salary of such office assistant, and the salary of the commissioner should be raised. No competent man can afford to serve as commissioner in one of our populous counties for $1,200 per year and pay from $300 to $400 per annum for traveling and other expenses when away from home.

MISCELLANEOUS.

In the abstract of commissioners' reports above referred to may be found brief discussions on various questions, such as grade examinations, reading circle, special day observance, libraries, educational meetings, etc. It therefore seems unnecessary for me to comment further on these topics, merely calling attention to the combined judgment of the commissioners who have favored this department with their valued suggestions.

OFFICIAL PUBLICATIONS.

During the four years of my administration there have been published and distributed from this office as follows:

Thirty thousand copies State Manual and Course of Study; 10,500 Arbor Day pamphlets; 25,000 Special Day booklets; 8,000 Text-Book Legislation—Facts and Figures; 1,500 pamphlets on Rural School Visitation; 15,000 Report Committee of Twelve; 10,500 Memorial Day pamphlets; 20,000 Outlines for Teachers' Institutes; 65,000 General School Laws; 11,700 Department Reports; 10,000 each of Manual Training Forms, Nos. 1, 2, 3, 4, and 5, not to mention the large number of blanks for certificates, reports, institutes, etc., that are in constant demand.

In addition to this, the department is entitled to some of the credit for securing to all the public schools of the state copies of the State Legislative Manual, compiled and sent out by the Secretary of State.

These publications have been widely distributed throughout Michigan, and some demands from other states have been supplied. The preparation and distribution of this printed matter has involved a vast amount of work on the part of my official staff.

BUSINESS COLLEGES.

The term "Business College" is a much used term and applies to a class of schools existing in Michigan and other states. It is supposed to be the general name of an institution where stenography, bookkeeping, commercial arithmetic, and kindred subjects are taught. It is difficult to say how many there are existing in Michigan, but a list of those incorporated under the laws of the State may be found in tables XXIV. and XXV. of this report. The Superintendent of Public Instruction has a certain jurisdiction over these institutions, and he is expected to report to the people of the state certain facts concerning their financial, statistical, and educational condition. This information may be found in the tables above referred to.

The object, however, in calling special notice to this class of schools is to mention the necessity of some rigid law which shall define the rights and powers of such institutions, and, at the same time, furnish some protection to the young people of the state against frauds and imposters calling themselves "presidents of business colleges."

Judging by the letters of inquiry that come to this office one would infer that every city in the state has a "Business College," with a "president" and numerous "professors." All kinds of abuse of confidence have been reported, and young people have been imposed upon by paying tuition to fraudulent institutions, whose teachers are not fit morally, or educationally, to have a place in any school. A couple of rooms over a grocery store, a few chairs, a typewriter, three or four tables, a black-board or two with some specimens of ornamental penmanship, a couple of persons calling each other "Professor," constitute in some cities what is called a business college. They advertise to do almost everything that a reputable institution can do, promise lucrative positions to their "graduates," collect exorbitant tuitions, put a chattel mortgage on their equipment, and vanish to appear again in some other city in another state as presidents of a Business University, etc.

We are glad to state that most of the incorporated schools are well equipped and under the management of worthy men. We regret that some institutions in Detroit and Grand Rapids, bearing excellent reputations as business colleges, have not become incorporated and that we cannot include them in our official list.

In the autumn of 1899 the following named gentlemen were appointed as visitors to the institutions named, and on page — is given a summary of their reports:

Gerrit J. Diekema, Holland. Edgar A. Fletcher, Grand Rapids. Ralph C. Ely, Alma.	International Business College, Saginaw. Bay City Business College, Bay City. Lansing Business University, Lansing.
George Clapperton, Grand Rapids. John J. Carton, Flint. Patrick H. Kelley, Ann Arbor.	Cleary's Business College, Ypsilanti. Michigan Business and Normal College, Battle Creek. Three Rivers Business Academy, Three Rivers.
Austin N. Kimmis, Midland. Fremont D. Davis, Negaunee. Jason Woodman, Paw Paw.	Ferris Industrial School, Big Rapids. Ludington Business College, Ludington. Benzonia College, Benzonia.
Durand W. Springer, Ann Arbor. Sanford E. Hayes, Standish. Charles C. Phillips, Bangor.	Benton Harbor College, Benton Harbor. Grand Rapids Business University, Grand Rapids. Fenton Normal and Commercial College, Fenton.
Edgar A. Fletcher, Grand Rapids. James W. Humphrey, Wayland. Reuben M. Winston, St. Johns.	Sprague Correspondence School of Law, Detroit.

In my letter of advice to these visitors I gave suggestions concerning the kind of information desired, as follows:

1. Do not announce your coming.
2. Obtain program of work and file it with your report.
3. Visit all classes taught in the school, each visitor taking a different class, if necessary.
4. Make inquiries as to the method of instruction in the classes.
5. Secure copies of advertising, circulars used, and enclose with your report any circulars which may be exaggerated, marking places where exaggerations occur.
6. Make a note as to the value of real estate owned by the school, if any; general estimate as to the value of equipment; the appearance of buildings and rooms, as to neatness, etc.
7. Obtain opinions as to the local standing of the school.
8. Did an educational air prevail?
9. Number of teachers employed during the entire year.
10. Number of extra teachers employed in busy seasons.
11. Total number of pupils present the day of the visit.
12. Total number of students enrolled during the last school year.
13. Average number of students for the year.
14. Number of students in each class visited.
15. Number of different courses of instruction offered.
16. The length of each course.
17. Number of graduates during the last year.
18. Average length of time each graduate has been in school.

Judging from the reports received, I am sure their work was faithfully done, and I feel grateful to these gentlemen for the very conscientious attention which they gave to the work assigned to them. I have visited some of the schools myself, and feel justified in making the following recommendations:

1. The best business schools of the state should all become incorporated under the state law.

2. The friends of business schools should unite in securing the passage of a law that shall prohibit the use of the term "business college" or "business university" by an organization not properly incorporated.

3. The law should give this department authority to close, on short notice, any incorporated school whose officers send out false or exaggerated advertising circulars.

4. The law should fix the financial requirements so high that only men of standing and business integrity can engage in the business.

With these suggestions I leave this subject to the consideration of the members of the legislature and to the friends of the young men and women of the state, who have a right to expect justice and protection.

MEDICAL COLLEGES.

On file in this office may be found an able report from the Board of Visitors appointed by me for the five medical colleges of the state; viz., Detroit College of Medicine, Detroit Homeopathic College, Michigan College of Medicine and Surgery, Grand Rapids Medical College, Saginaw Valley Medical College.

The members of this board were Hon. A. J. Mills, now mayor of Kalamazoo, an able attorney and former circuit judge; Dr. F. F. Pitcher, a young and energetic practitioner in the city of Battle Creek; and Dr. A. W. Saxton, formerly member of the Michigan legislature, member of

the State Board of Pardons, and a physician of standing in the city of Jackson.

The object in appointing this board of visitors was not so much for the purpose of making an inquiry into the methods of instruction in our medical colleges as to secure some general information concerning the financial and professional standing of the men who were in control, and to ascertain, so far as possible, if the legal requirements were complied with when such colleges were incorporated under the general law. As is well known, some controversy has arisen concerning the establishment of certain medical colleges; and these men were selected to act as an advisory board. Unfortunately, the sudden death of Dr. Saxton deprived the board and the state of his valuable services; but the work was carried admirably forward by Judge Mills and Dr. Pitcher, and a very intelligent report was filed, giving their observations on said institutions, together with some very practical suggestions.

I withhold this report from publication, but give in full their recommendations, all of which I most heartily endorse:

"1st.—A standard of preliminary education should be provided, and a board created to examine all students before entering upon the study of medicine.

2d.—Some safe, uniform standard for graduation ought to be fixed and insisted upon as a condition precedent to a license to practice medicine.

3d.—The financial solvency and stability of each institution should be more carefully guarded and insisted upon.

4th.—Medical colleges should not be chartered in small towns where clinical and hospital facilities, so necessary to the proper education of a physician, are not ordinarily found.

5th.—A constant and thorough visitation and inspection of such institutions should be regularly made by a board of visitors competent to fairly judge of their merits.

6th.—The capital of every medical college should be large enough to warrant the employment of men learned in their profession and the provision of equipment in all branches adequate to promise a proper medical course."

VALEDICTORY.

In closing this record of my official life I desire to acknowledge the value of the services of my genial and popular deputy, Mr. Daniel E. McClure, and mention individually an official staff composed of men and women as true and loyal as was ever gathered to the support of any man. These parting words may have little meaning to the thousands of persons who will read this report. Those who have borne with me the labors of these four busy years will, I am sure, appreciate a word of recognition from the one whose name has been known to the public as the head of the department. The state will never know what has been the value of their services as individuals. History, ever charitable, may give a full measure of praise to him who was the superintendent, but it remains for him to acknowledge their valuable assistance and encouragement by giving, at least, their names, residences, positions, and time of service:

A. Hamlin Smith, chief clerk, Grand Rapids; March 1, 1897, to December 31, 1900.

Cora D. Martin, editor, Paw Paw; May 10, 1893, to August 31, 1900.

Nora B. Sharpsteen, statistician, St. Louis; February 1, 1893, to December 31, 1900.

Emilie R. Mack, statistician, Niles; January 1, 1897, to December 31, 1900.

Mrs. T. B. Hartley, statistician, Bessemer; January 1, 1900, to December 31, 1900.

Georgia Haggart, stenographer, Grand Ledge; May 1, 1899, to December 31, 1900.

Violet A. Mode, stenographer, Midland; January 1, 1897, to December 31, 1898.

Sarah L. Gilliland, stenographer, Lansing; January 1, 1893, to December 31, 1897.

Howard W. Arbury, shipping clerk, Detroit; July 1, 1898, to December 31, 1900.

Three of the above named persons resigned before the end of the term. Miss Gilliland became Mrs. M. A. Chapin of Lansing, Miss Mode became Mrs. A. N. Kimmis of Midland, and Mrs. Martin engaged in business at Colorado Springs.

This parting word must yet include the humblest worker of us all,—Mr. Byron Derthick, janitor. "Uncle By"—always a gentleman—was the teacher of my boyhood. He taught me long division, fractions, compound numbers, participles and infinitives. Farmer, carpenter, soldier, teacher, friend—his life has been a success. May he yet live many years.

TO MY SUCCESSOR—DELOS FALL

I extend my warmest congratulations upon his election to the high office to which he is called. The state is to be congratulated that a man of his scholastic attainments and executive ability will occupy the office during the next two years. I cheerfully transfer the official toga to his most worthy shoulders, and wish for him unbounded success in his new work.

JASON E. HAMMOND,
Superintendent of Public Instruction

EDUCATIONAL FUND.

PRIMARY SCHOOL FUNDS.

Seven per cent fund:		
Amount on which State pays interest, June 30, 1900....	$3,984,562 05	
Due from purchasers of lands, June 30, 1900.....	201,630 52	
Total seven per cent fund, June 30, 1900.....		$4,186,192 57
Five per cent fund:		
Amount on which State pays interest, June 30, 1900.....		868,503 46
Total school fund, June 30, 1900.....		$5,054,696 03

INCOME ON PRIMARY SCHOOL INTEREST FUND.

Interest paid by State on 7 per cent fund during year ending June 30, 1900.....	$276,465 24	
Interest and penalty paid by holders of lands on 7 per cent fund during year ending June 30, 1900.....	8,473 44	
Interest paid by State on 5 per cent fund.....	42,595 89	
Total income from both funds.....		$327,534 57
Surplus of specific taxes transferred.....	$918,898 62	
Paid by trespassers on school land.....	3,750 31	
Total		922,648 93
Total income for year ending June 30, 1900.....		$1,250,183 50

UNIVERSITY FUND.

Amount on which State pays interest, June 30, 1900.....	$534,283 05	
Interest paid by State.....		$37,375 49
Interest and penalty paid by holders of lands.....		1,117 83
Total income for year ending June 30, 1900.....		$38,493 32

AGRICULTURAL COLLEGE FUND.

Amount on which the State pays interest, June 30, 1900..	$818,943 76	
Interest paid by State.....		$54,882 12
Interest and penalty paid by holders of lands.....		5,985 31
Paid by trespassers on lands.....		12,468 95
Received from United States governme t.....		25,000 00
Total income for year ending June 30, 1900.....		$98,336 38

NORMAL SCHOOL FUND.

Amount on which State pays interest, June 30, 1900.....	$66,852 62	
Interest paid by State.....		$3,999 62
Interest and penalty paid by holders of lands.....		266 19
Total income for year ending June 30, 1900.....		$4 [illegible]

MANUAL TRAINING.

Manual training is not a new idea in America. As early as 1642 Massachusetts passed a law "that all parents and masters do bring up their children and apprentices in lawful calling, labor or employment, or some other trade profitable for themselves and the commonwealth." Benjamin Franklin included the idea in his plan for an academy, and later Thomas Jefferson also recommended it.

These efforts, like many other movements of those early times, symbolized the existence of an idea, but an idea veiled in the mists of inexperience, and the gloom of an undiscovered philosophy. Pestalozzi's and Froebel's teachings had not yet been accepted by the educational world. But probably the first gleam of the idea, as seen and practiced today, is found in the Boston "Whittling School," introduced about 1871 by Mr. Frank Rowell. This interesting school, designed to teach boys how to use and care for tools, was in charge of "The Industrial School Association," composed of a number of public-spirited persons, who elected the Rev. George L. Chaney president.

After five years of existence the school was merged into the "Industrial School." Later, in 1884, several larger and more extensive schools were organized, but they, as well as the manual training schools of today, based their work upon the same idea—that training of the hand gives mental power.

But it was left for "Darkest Russia" to reveal to the world the method by which manual training can be engrafted into the public school system. The Russian educational exhibit at the Centennial Exposition in 1876 was a revelation to the American people. Not only did art as an element in education receive a new baptism, but the manual training of today received its greatest impulse from the same source.

The Russian manual training exhibition was under the direction of its originator, Victor Della-Vos. This method differed from other methods in that it had a scientific method of tool study. Heads must think, while hands worked.

But Russia accepted students only of 18 years or more. There was no thought of offering the intellectual benefits of shop-work to the growing boy of 14 years and younger. America has the credit of having adjusted it to his needs. While Della-Vos was genius enough to discover methods of tool study, there were other educational thinkers developing work along the same line. Prof. Channing Whittaker, Mr. George H. Chapman, Mr. D. T. Kendrick, all of Boston, joined in preparing a "Manual" containing a series of 14 lessons for beginners in woodwork. This "Manual" was published by Ginn & Heath in 1881.

Under the impulse given by this exhibit manual training schools were soon organized in a number of the large cities of the United States: St. Louis in 1879; Baltimore in 1883; Chicago, Eau Claire, Toledo, and New York in 1884; Philadelphia and Denver in 1885; Cleveland in 1886.

About this time Dr. Felix Adler of New York called the attention of educators to the mental development possible in the creation of ideals

in drawing classes, by referring to a kindergarten and primary school which had for five years applied the "creative method" to the "training of the intellect, the development and refinement of taste, and the formation of character." He maintained that there must be an intimate relation recognized between drawing and manual work with tools. To quote his language, "Thus while he (the child) is shaping the typical objects which the instructor proposes to him as a task, while he pores silently, persistently, and lovingly over these objects, reaching success by dint of gradual approximation, he is at the same time shaping his own character, and independency of mind is created from which will eventually result the loftiest and purest morality."

The St. Louis school, too, under the direction of C. M. Woodward, attracted wide attention and soon became the center of general educational interest and investigation. At the National Educational Association, held in Saratoga in 1882, after a spirited discussion of the subject, a committee on industrial education made a report in which occurred the following recommendation: "The teaching of drawing, not as an accomplishment, but as a language for graphic presentation of the facts for form and matter,—and also as a means of developing taste in industrial design. * * * The introduction into grammar and high schools of instruction in the use of tools, not for their application in any particular trade or trades, but for developing skill of hand in the fundamental manipulations connected with the industrial arts, and also as a means of mental development."

In the discussion, James McAllister, later of Philadelphia schools, and after that president of Drexel Institute, said: "It is an egregious mistake to suppose that those who favor manual training wish it to take the place of mental training, or seek to deprive any class of pupils of the portion in intellectual culture they now receive. But I would like to know why the hand should not be trained as well as the head. The perfectly educated man is he whose facile hand follows obediently the clear and ready promptings of a well developed brain. * * * It is the hand that 'rounded Peter's dome'; it is the hand that carved those statues in marble and bronze; that painted those pictures in palace and church which we travel into distant lands to admire; it is the hand that builds the ships which sail the sea; * * * it is the hand that constructs the machinery which moves the busy industries of this age of steam."

Dr. E. E. White, well known in our state, opposed the resolution with his customary force and power. He said in part, "this doctrine saps the very foundation of the public school system, puts a magazine under it, and then lays a train out to fire it. The educator who does that cannot blame the outsider if he fires that train, and the public school system in some of its important departments is blown up before his eyes."

Surely the friends of manual training could wish for no more rapid growth in popular sentiment than the above indicates. From this time the educational leaders discussed manual training on every possible occasion, its opponents claiming that it would sap the very foundations of the school system by depriving pupils of the mental culture given in the schools; its supporters, on the other hand, insisting that the culture benefits would be increased by manual training.

Notwithstanding the opposition from many school men, manual training has steadily grown upon the public belief, until in 1896 it was an essential feature in the public schools of ninety-five cities, and was recognized to a greater or less extent in 359 institutions of learning not connected with the city schools. In several states legislatures have recognized the valid claims of the movement, and passed laws favorable to its growth. Massachusetts requires every city of 20,000 inhabitants to maintain manual high school training courses approved by the state board of education; Maine authorizes any city or town to provide industrial or mechanical drawing to pupils over fifteen years of age; Connecticut, Georgia, Indiana, New Jersey, New York, Utah, Wisconsin, and Wyoming, authorize industrial training by general laws. Congress makes regular appropriations for manual training in the District of Columbia.

Germany, however, leads the world in the number of its manual training schools, having 1,574 workshops in which manual training is carried on in 605 different towns. Of this number 836 are schools conducted on a pedagogical basis. Of these 1,574 workshops, 435 are devoted to wood carving; 527 to working in cardboard; 356 to the carpenter's bench. Over 2,000 German teachers have qualified to teach manual training.

The steady growth of manual training sentiment and the increase in the number of cities adopting it; the enthusiasm of its supporters, and the intense opposition of some leading educators, together with the belief that some element is lacking in our educational system, led to the idea of an investigation of the question by this department. Accordingly the matter was brought before the State Board of Auditors, and an allowance of $100 secured for the investigation.

Correspondence was at once opened with the State Superintendents of Public Instruction in the principal states of the Union, and with the superintendents of schools in the various leading cities having manual training. From these sources much information was received.

A representative from this department was also sent out to make personal investigation of the manual training work in as many cities as possible with the allowance made. In our own state the following cities were visited: Calumet, Detroit, Ishpeming, Kalamazoo, Marquette, Menominee, and Muskegon; and in other states those of Cleveland, Chicago, Toledo, Menomonie, St. Paul, and Minneapolis.

In order to awaken a general interest in the subject of manual training, the monthly Manual Training Forms, Nos. 1, 2, 3, 4 and 5—from 7,000 to 10,000 each—were issued. These bulletins were sent to every part of the state, and, judging from the general interest manifested in the subject, we believe were very generally read. We reprint them below.

MANUAL TRAINING.

(Manual Training Form No. 1.) April 1, 1900.

What is manual training? Manual training is not the teaching of trades, nor handicraft even. Neither has it for its purpose the development of manual dexterity, nor the awakening of slumbering ingenuity, nor the discovery of natural aptitudes. It does, to a degree, gather to

itself all of these; but they are not the prime reasons for the need of manual training in the public schools any more than the pleasures of taste are the prime reasons for a child's eating. However, as the use of food is to produce in the immature child growth, so manual training has for its purpose growth.

We recognize man as a creature possessing body, intellect, and soul; and while we recite in the parrot-like way that "Education is the development of the whole man," there is a tendency to treat education as the development of the whole man in *general*, and the intellect in *particular*. We assume that the activities of life—athletic sports, social demands, and, later on, the struggle for sustenance—will force men and women to the development of the physical. The result is that systematic physical exercises throughout the entire courses of any of our high schools is a thing almost unknown. There are various reasons for this, but the principal one is that ordinary physical exercise lacks a very essential element—purpose. A little child can be entertained by gymnastic exercises because he is a child, but with the older pupils there must be motive. Manual training furnishes this motive; and every action being vitalized by definite purpose, both pupils and teachers cease to act as automatons. Gymnastics, with the exception of a little mental drill—rhythm and the simplest arithmetical concepts—are, moreover, almost purely muscular. This may develop attention; but the most elaborate system of calisthenics is soon memorized, and even this slight intellective benefit then ceases.

On the other hand manual training absorbs every element of attention; attention to instructions given, attention to dimensions and measurements, attention to drafting patterns from which work is to be constructed, etc. Each new lesson makes new demands; and as the work advances, these become more and more complex throughout the course.

Specifically, the boys give attention to tools, woods, and metals; the girls to foods, fabrics, and home decorations. Critical observation is thus enforced. The boy is directed to use pine, whitewood, beech, or maple; and the girl to use cambric, calico, or gingham, thus perfecting the critical inspection.

Again, it enforces judgment. The instructor asks "What material shall be used for this, and why?" In short, manual training supplies the "missing link" in our present school system—the practical. "But," say our educators who object to manual training, "we cannot specialize. We must make our teaching general, and let special instruction be done by schools of technology, etc." But manual training simply makes the education *nearer* general and less specific than it now is. The high school gives training to the intellectual powers of the students, thus imparting facility for further intellectual preparation. It thus happens that a young man or woman who follows some purely intellectual profession or calling, receives in the high school a training which prepares him to more easily enter his profession. Why should not the same school give facility to those faculties or powers that the *masses* need in their callings? The state pays out its money for a better citizenship. The hungry citizen is always a dangerous citizen; hence it is one of the duties of the public school to so educate young men and young women that they may better earn a livelihood.

The friends of manual training make the following claims:

1. That it develops and enriches the intellect, strengthens the will by developing the power of concentration, and by its social development, fosters public spirit.

2. That it saves time. It is the testimony of those giving careful study to the subject that, by reason of the development of the practical side of education and a greater concentrative power, pupils accomplish as much in history, English literature, German, and bookkeeping as do high school pupils not taking manual training, and a good deal more of science and mathematics—not to mention the additional work of manual training proper.

3. That it removes the common objection that our schools do not fit pupils for the duties of life, an objection that seems to have vitality if the following figures, taken from the report of Mr. Hodge, international secretary of the Y. M. C. A., are true:

Of the 13,000,000 men in the United States between 16 and 35 years of age, who are engaged in different pursuits, 5 per cent only received in school an education which prepared them for their occupations.

Of these 13,000,000 men, 92 per cent earn a living by their hands. If we add to this 92 per cent the idle man—who may be idle because he has not been introduced to his powers by his school education—the problem of the education of the masses in the public school becomes a very grave one.

4. That it develops the sensibilities, and thus quickens the moral nature, while purely intellectual attainments do not.

5. That in the final analysis of progress we are astonished to perceive its dependence on the manual. Every work of art, be it painting, sculpture, or edifice, is of the manual. Every visible feature of civilization is the product of the manual, and dependent upon it for its continuance.

6. That manual training is elevating; that it is the worst foe to vice and crime. The ranks of the vicious and criminal are not replenished by busy young men and women.

7. That it is delightful. One needs but to visit the manual training work of a school to appreciate the real delight there is in that sort of study. Not that all pupils love all the work, although many claim that they find real enjoyment in it all; but everyone, except the hopelessly indolent, finds in it somewhere his delight, and thus learns from his own experience how elevating and hence how noble, is labor.

8. That the principal of "the greatest good to the greatest number" is not ingrafted in our present school system. Of the more than 150 vocations followed in this state, the following eight are purely intellectual; viz., that of clergyman, lawyer, lecturer, physician, author, teacher, editor, and reporter.

From the remaining vocations we select a few of the most common dependent largely upon the trained hand, eye, or ear; viz., that of the architect, artist, baker, barber, blacksmith, book-binder, carpenter, cook, day-laborer, dentist, designer, dressmaker, electrician, engineer, engraver, factory or shop hand, farmer, glass-worker, harnessmaker, jeweler, machinist, miner, milliner, musician, sculptor, shoemaker, steel-smith, surveyor, tailor and typo.

The last state census shows that the above intellectual pursuits were followed by 32,426 persons, while the others mentioned were followed by 714,535 persons, or more than 21 times as many. Surely the interests of this large number are many times greater than those of the more or less professional class.

9. That manual training would add to the years of the school life of the masses, thus giving them school influences during the most critical years of youthful development—the years of social growth and independent thinking.

SOME MICHIGAN STATISTICS.

From the latest reports received in this office from 43 leading cities of Michigan, we have compiled the following statistics for 1899:

Total enrollment, 173,250.
Number in high school, 13,270.
Number graduating, 1,332.

From the most careful computations, taking into consideration that there are four high school and eight primary grades, and that only one class graduates each year, we deduce the following:

Less than 16 per cent of the total enrollment enter the high school; and less than 40 per cent of this 16 per cent, or less than 7 per cent of their total enrollment, graduate from the high schools. And of these graduates, so far as we can determine from the reports made, not to exceed one-third, or two per cent of the total enrollment take a college, university, or professional course in any of the higher institutions of learning. We are forced by these statistics to the startling conclusion that only about two per cent of the pupils enrolled in the public schools of this state fit themselves professionally in higher institutions.

OTHER STATISTICS.

Startling as are these figures, they are much above those found in some cases. The following are taken from a paper prepared by Dr. Daniel Folkmar of the University of Chicago, on "The Duration of School Attendance in Chicago and Milwaukee."

Of those who enter the schools,

1. About one-third go no further than the first grade.
2. About one-half go no further than the second grade.
3. About two-thirds go no further than the third grade.
4. About three-fourths go no further than the fourth grade.
5. About nine-tenths go no further than the sixth grade.
6. About 97 per cent go no further than the eighth grade.
7. About 3 in every 1,000 graduate from the high school.

In the face of such facts, the most optimistic imagination must stand almost aghast. The schools are not doing that for which the public treasury pours out its wealth, namely, to produce a self-reliant, self-supporting, thinking citizenship.

Something must be done to improve these conditions. Will manual training do it?

THE ADVANCED KINDERGARTEN.

(Manual Training Form No. 2.) May 1, 1900.

Many, possibly the majority of those who favor manual training understand it is intended to develop mechanical skill or a taste for mechanics, and thus prepare students for industrial pursuits. This idea being antagonistic to the very essence of education, naturally arouses vigorous opposition from the teaching fraternity. That this is an error has been many times stated. It therefore becomes necessary in the interests of education that all understand the real purpose of manual training in the public school, and by what right it demands recognition. When this is done, much of the opposition will disappear.

Manual training, in its ethical sense, has the creative rather than the industrial idea. Pestalozzi turned from the names of things to the things themselves. This was a great forward movement in education, and revolutionized methods in primary work. Froebel further advanced the evolution of the educational idea when he stepped from the study of the object to its creation. Manual training simply takes this Froebelian idea into the higher school life of the pupil. In other words, manual training is the advanced kindergarten, and it is difficult to understand how a believer in the kindergarten can oppose manual training in the higher grades.

In Manual Training Form No. 1 we said, "It is one of the duties of the public school to so educate young men and women that they may better earn a livelihood;" but we would say in the same breath that the state violates the freedom of its coming citizens when it undertakes to *prescribe* their future careers. Slavery is not confined to the use of the lash nor the restraints of freedom of locomotion. The silent workings of environment may produce the most abject slaves—witness the superstitions of the past and present—he alone is free whose thought is free; hence the state cannot produce free citizens while pressing in upon its susceptible youth, through systematically arranged environments, unnatural tastes and tendencies. It is the duty of the schools to produce parallel growths of all the faculties, leaving the pupil free to swing out into the realm of choice with no distorted tastes nor shortened powers.

The training of the hand ministers to this parallel development. We remember when the sciences were taught wholly from the text. Later the principles of Pestalozzi entered the class-room and we stood open-eyed and open-minded, as the truths of science were demonstrated with the proper apparatus in the hands of the teacher. But today Froebel's idea has taken possession, and the *pupil* performs the experiments. It is his hand that creates the conditions; it is his eye that watches the changes, his hand that notes them. Science teaching has thus adopted the manual training idea; and such are the results in intellectual development that Latin, Greek, and mathematics are no longer considered as the only intellective subjects for college training.

What the manual training idea has done for science teaching, it will do for mathematics and other kindred subjects. The dissatisfaction

among professional and business men regarding the teaching of practical things in our schools is widespread. This is especially true regarding arithmetic, penmanship, spelling, and language. Any one who doubts this, needs but to enter the business places of his own city and make inquiry. There is a well-grounded feeling that in the mastery of arithmetic is a discipline closely allied to that needed in the activities of life; and when a father discovers that his child of 16 or 17 years has no idea of practical business questions and little skill in analytical processes, he justly charges the school with inefficiency. The difficulty, however, is that the pupil has had no opportunity to *sense* arithmetic. To him measurements and values are indefinite ideas. He commits facts to memory and blindly tries to work out problems. If his memory and imagination are good, he stands well and receives a high mark. But still the work is vague; it does not touch his life or experience; it has no meaning. Put that pupil into a manual training school—the boy in the shop, the girl in the kitchen—and at once mathematical facts become distinct ideas.

Step into the shop of a manual training school and observe the boy with a project before him. What are the steps through which his mind must bring him to the final perfection of the work?

First. He must give the project careful study. He must note shape, dimension, material, construction, and finish.

Second. He must design it and make a drawing of it. This at once puts mathematics into his hand as well as his head. He must use square, compass, try-square, and pencil. Exact measurements must be made, divisions and subdivisions calculated, lines carefully drawn.

Third. He must select material of proper dimensions and fiber, and then must reflect how to apply it to the draught made so that there is no waste.

Fourth. He must plane and saw to the line, correct and fit; in short, he must *create* the project that has had existence in his mind and upon paper only. Then it is that his arithmetic begins to throb with life, his judgment to command, and his ethical sense to unfold.

Fifth. He is in the midst of open competition. On every hand are his mates, each engaged in similar hand-work. There is no escaping their scrutiny and criticism; no weak-kneed teacher can bolster him up by high per cents. As in real life, he stands or falls by his own work. His powers of concentation are forced to the highest tension, and his self-control develops in the natural way; for upon it rests the success of his effort. He knows that the mistake of a hair's breadth with chisel, saw, or plane, means failure. His mental activities respond as never before, and the listless, careless boy begins to think as a man.

But in summing up the *benefits* of the exercise, the project itself disappears. The benefits do not lie in its value, perfection, or finish, but in the *mind of the boy.* He is more than he could be without that experience. He has been touched by the activities of a miniature world and his powers are greater, because he can better command them. As a result his academic tasks are done more easily and better. This is the universal testimony of teachers of such pupils, and dissipates the objection often urged that pupils are already overloaded and that manual training would add a grievous burden.

These benefits are general but they are not the sum. There is a special benefit in many cases. Take, for example, the pupil whose memory is poor or whose imagination is dull or who, in his early school days, has been injured by a careless teacher and, in consequence, falls behind his fellows and is set down by his teacher as a dullard—though he is never so dull that he does not feel throughout his entire being the stab of the fatal verdict "stupid." He senses with downcast eye and throbbing heart, the oft intimated and—shame to say it—sometimes spoken comment, "It is as good as I can expect of *you*." He loses self reliance, courage, hope, and sinks into a state of mental somnambulism from which he arouses only when outside the influences of the school room, where he often proves that he has faculties of no mean order. He may be kept in school by social influences and the appeals of those whom he loves—for he is often an affectionate child—but no prisoner ever counted the months to the termination of his sentence with more desire than does this pitiable one count the slow-moving years that shall bring his release. But put this pupil into the manual training work and you find him just as capable as his brighter classmates—indeed, here he often excels. The result is a wonderful transformation. Self-reliance springs into life; courage and hope revive. His grip upon his faculties becomes firmer; he comes to possess himself. Slowly, but surely, he emerges from the mental gloom that has encompassed him until he becomes a strong, practical, clear-headed student. An intellect has been saved to the nation, and a human life made larger and capable of greater enjoyment.

SOME FACTS AND FIGURES.

(Manual Training Form No. 3.) June 1, 1900.

In Manual Training Form No. 1 we mentioned some of the "claims" made by the friends of manual training. To assure ourselves that these claims are founded upon facts, a letter of inquiry was sent to the manual training schools of the following cities in other states, as Michigan schools were to be personally visited:

Albany, N. Y.; Atlantic City, N. J.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Concord, N. H.; Denver, Colo.; Fond du Lac, Wis.; Indianapolis, Ind.; Jamestown, N. Y.; Janesville, Wis.; Lowell, Mass.; Menomonie, Wis.; Milwaukee, Wis.; Orange, N. J.; Oshkosh, Wis.; Philadelphia, Pa.; Providence, R. I.; St. Louis, Mo.; St. Paul, Minn.; Somerville, Mass.; South Omaha, Neb.; Syracuse, N. Y.; Walton, Mass.; Springfield, Mass.; Minneapolis, Minn. Below is the letter:

DEAR SIR—I shall greatly appreciate the favor if you will kindly answer the questions below, as I am making an investigation of manual training.

Yours very truly,
JASON E. HAMMOND.

QUESTIONS.

1. Is the work obligatory or optional?
2. What per cent of the entire enrollment take manual training?
3. What are its effects upon (a) originality; (b) intellectual energy; (c) length of school life; (d) studies; (e) pupils' social life; (f) tendency toward trades or professions; (g) esthetic taste?
4. What is the attitude toward the work, (a) of parents; (b) of primary and high school teachers?

SUMMARY OF ANSWERS RECEIVED.

CITIES.	Obligatory.	Optional.	Per cent of total enrollment taking M. T.	EFFECTS UPON							Attitude of parents.	Attitude of teachers.
				Originality.	Intellectual energy.	Length of school life.	Studies.	Social life.	Tendency toward trades or professions.	Aesthetic taste.		
Albany	2 yrs.	.....	....	.....	.....	.....	Helps.	.....	.....	.....	Indifferent.	Indifferent.
Atlantic City, N. J.	{Higher grades.}	.....	30	Stimulates.	.....	Increases.	Helps.	.....	Equal.	Cultivates.	Favorable.	Favorable.
Boston	Yes.	.....	....	.....	Increases.	Increases.	Helps.	.....	.....	.....	Favorable.	Favorable.
Buffalo, N. Y.	.....	Yes.	....	Stimulates.	Increases.	Increases.	.....	.....	Equal.	.....	.....	.....
Chicago	Yes.	.....	....	Stimulates.	Increases.	Increases.	Helps.	.....	Equal.	Cultivates.	Favorable.	.....
Concord	Yes.	.....	....	Stimulates.	Increases.	.....	Helps.	Elevates.	Equal.	Cultivates.	Favorable.	{H. S. conservative, primary favorable.
Denver	Yes.	.....	....	Stimulates.	Increases.	Increases.	Helps.	.....	Equal.	Cultivates.	Favorable.	Favorable.
Fond du Lac	.....	Yes.	* 2	Stimulates.	Increases.	.....	Helps.	.....	Equal.	.....	.....	.....
Indianapolis	.....	Yes.	75	Stimulates.	Increases.	Increases.	Helps.	.....	Trades.	Cultivates.	Favorable.	Favorable.
Jamestown, N. Y.	Yes.	.....	....	Stimulates.	Increases.	Increases.	Helps.	Elevates.	Equal.	Cultivates.	Favorable.	Favorable.
Janesville, Wis.	.....	Yes.	* 2	.....	.....	.....	Helps.	.....	Trades.	.....	.....	.....
Lowell, Mass.	.....	Yes.	*10	.....	Increases.	Increases.	.....	.....	Trades.	Cultivates.	Favorable.	Favorable.
Milwaukee	.....	Yes.	16	Stimulates.	Increases.	Increases.	Helps.	Elevates.	Equal.	Cultivates.	Favorable.	Indifferent.
Minneapolis	.....	Yes.	....	Stimulates.	Increases.	.....	Helps.	.....	Trades.	.....	.....	.....
Oshkosh	.....	Yes.	50	Stimulates.	Increases.	.....	Helps.	.....	.....	.....	.....	.....
Orange, N. J.	Yes.	.....	....	Stimulates.	Uncertain.	Increases.	.....	.....	Equal.	Cultivates.	Favorable.	{H. S. favorable, primary hostile.
Philadelphia	Yes.	.....	....	Stimulates.	Increases.	Increases.	.....	Elevates.	Equal.	Cultivates.	{Co-operative.}	{Indifferent or hostile.
Providence	Yes.	.....	....	Stimulates.	.....	Decreases.	{Hinders in literary studies.}	.....	Equal.	Cultivates.	Favorable.	Hostile.
St. Paul	Yes.	.....	....	No effect.	.....	Increases.	.....	.....	Trades.	.....	Favorable.	Indifferent.
St. Louis	Yes.	.....	....	Stimulates.	Increases.	Increases.	.....	.....	Trades.	Cultivates.	Favorable.	Indifferent.
Somerville, Mass.	.....	Yes.	21	Stimulates.	Increases.	Increases.	Helps.	Elevates.	Trades.	Cultivates.	Indifferent.	Favorable.
Springfield, Mass.	.....	Yes.	75	.....	Increases.	Increases.	Helps.	.....	.....	.....	Favorable.	Indifferent.
So. Omaha, Neb.	.....	Yes.	10	Stimulates.	Increases.	Increases.	.....	.....	Equal.	.....	Favorable.	Favorable.
Syracuse, N. Y.	.....	Yes.	20	Stimulates.	Increases.	.....	Helps.	.....	.....	.....	.....	.....
Waltham, Mass.	.....	Yes.	95	.....	Increases.	.....	Helps.	Elevates.	Trades.	.....	Favorable.	Favorable.

* Manual training only in high school.

A number of the above answers were accompanied by personal letters of explanation and emphasis. Below we quote from a letter of C. M. Woodward, Director of the St. Louis Manual Training School—a man with probably as much manual training experience as anyone in the United States:

"I venture to call your attention to the record of the Alumni of the Manual Training School as furnished in the catalogue. This record is as accurate as I can keep it. I am in touch with nearly all my graduates, and the record is kept up for the purpose of answering questions like yours as to what the social, intellectual, moral and industrial effect of our training is.

"As to the permanency of the interest, I think it is safe to say that the interest increases from the beginning to the end. No high school in the country is able to hold its boys as we hold ours, and this interest and enthusiasm results, not from mere novelty or release from the ordinary work of a school, but from the fact that the work is intrinsically interesting and rational all the way through. It throws light upon the ordinary academic work, particularly in mathematics and science, so that the work finds abundant justification at every step. This produces in the mind of the pupils a sense of satisfaction which the ordinary pupil often lacks."

We feel that the above summary is very conservative. The representative sent out from this Department to investigate the work of manual training schools, found teachers enthusiastic, and their answers to some of the above queries were uniformly much more emphatic than these. Members of boards of education, too, were very positive in their attitude in favor of manual training in their schools. Both they and the teachers, reported the patrons as very friendly to the work. For example, a member of the board of education in one city, when asked as to the "attitude of parents," answered, "To drop the shop-work in this school would cause an insurrection. We could easier dispense with the high school than with that." Teachers, when asked as to the effect of shop-work upon the *academic* work of their pupils, were often ready to give striking illustrations of its wonderful benefits. Not a solitary example was found in which teachers reported the academic work as being poorer after shop-work was taken up. The verdict that arithmetic, drawing, and penmanship were improved, was almost universal. Several teachers mentioned, also, the relief they experienced in controlling restless, listless boys after shop-work was commenced by them, one of the most effective punishments for bad deportment being to deprive pupils of it.

There is no divergence of opinion as to the length of school life being increased by manual training. The most striking illustration of this was found in the Jewish Training School of Chicago. This school, founded by Jewish capital, is Jewish in name only, being entirely nonsectarian. The children of all nationalities are admitted, the Jews enrolled being a very small percentage. The only discrimination is against the well-to-do. Pupils are thus from the homes of the very poor, and mostly of foreign parentage. There is no law to compel regular attendance, or indeed to compel attendance at all. The following figures, showing enrollment and per cent of attendance, were taken from the records of the last month preceding the visit:

	Enrollment.	Per cent.
First Grade	64	.96
Second Grade	57	.97
Third Grade	55	96.6
Fourth Grade	58	.84
Fifth Grade	(a) 39 (b) 41 — 80	(a) 81 (b) 87 — .84
Sixth Grade	52	.96
Seventh Grade	33	.97
Eighth Grade	30	100

The most striking thing connected with the eighth grade above is the fact that every one of its thirty pupils has been in the school from the kindergarten up, being over 60 per cent of the original kindergarten class. According to reliable statistics, the public schools of Chicago do not retain 10 per cent of their first grade pupils through the first eight grades of school; and yet this school, having its students from the homes of the very poor, whose parents so much need the help of the boys and girls above twelve years of age, retains 60 per cent of its kindergarten pupils throughout the entire course. When the principal, Mr. Bamberger, was asked how it was done, he replied that both pupils and parents saw in the work that which would aid in getting a livelihood. When asked as to the quality of work done by these pupils reared in the homes of poverty, without the common refinements of an average home, without the help of newspapers, libraries, periodicals, or educated parents, he replied that they were received into the Chicago high schools without examination. When asked as to the quality of the work these pupils do in the high schools, he produced a Chicago paper containing the pictures of the four valedictorians of the Chicago high schools last June, one of whom was a Russian girl, a graduate of the Jewish Manual Training School.

If facts and figures can prove anything, the above are worth careful study.

There is, however, more than figures in the daily record of this wonderful school; there are great heart-throbs and tears. A careful record of the homes of the pupils is kept—the nationality, number in the family, occupation of parents, wages received, rent paid, and in general the changes that occur from time to time. In this way each pupil's environment is understood. Some of the stories of deprivation told of these parents are heartrending. A teacher pointed out a strong, clear-eyed young man in the senior class, and said: "Last fall that lad's mother came to us with tears in her eyes, saying, 'I cannot send T. next year; he has been offered $12 a week, and I cannot get along another year without his help.' I knew how great had been her struggle and could not urge it further. But a few days later she came with her boy and, after asking me a few questions, said: 'Well, I've lived on bread, potatoes and salt for two years, and I'll do it another for you, my boy.' Then we all laughed and cried together."

This is but one of the many examples that go to show the hold upon "the masses" that a manual training school can gain.

MANUAL TRAINING IN CHARACTER BUILDING.

(Manual Training Form No. 4.) Sept. 1, 1900.

It is a principle of physical growth that normal development in one direction stimulates development in all directions. For example, the person who practices right-arm exercises strengthens not only the right arm, but the left one also. The same principle applies to mental and moral growth. Normal development of the memory, reason, imagination, or other faculties, stimulates all mental growth. Development of sympathy, love of truth, etc., stimulates all moral growth. The distinguishing characteristic of the New Education is *action*. "Learning by doing" is not an educational fad. It is the vital element in all education, physical, mental and moral.

If it can be shown that manual training enforces the use of the faculties with more certainty than do the academic studies, thus developing some phases of mental or moral growth with greater rapidity, a pedagogical reason for its introduction into school courses of study is established.

SOME MANUAL TRAINING EFFECTS.

Effects Upon the Will.

Manual training calls into use activities that ordinary school work leaves untouched, or only passively active. It develops nerve-power—another name for physical strength—and nerve control—another name for self-control or will-power. In colleges, athletics have become a permanent factor; not to gratify a carnal desire for physical prowess, but because they cultivate nerve-power, self-control, decision, etc. They are, however, spasmodic in their application, and tend to deteriorate into mere gladitorial contests, with no commensurate benefits. Manual training, on the other hand, has all the requisites for severe physical exertion, and also painstaking muscular action, the former developing nerve-power, the latter nerve control or will-power. Will-power for a particular kind of action stimulates will-power for all action. The will is the executive faculty of the mind. Without an active will all education is useless.

That manual training will develop will-power, even in those abnormally lacking in it, is proved by the history of the New York State Reformatory at Elmira. In this institution manual training is based upon two well established facts; viz., First—that every part of the body controlled by the will is really controlled by a region of the brain known as a "center." Second—that if a center controls the activities of a certain part of the body, it is possible by cultivating these activities to produce better brain conditions in that center. The inmates of this institution are classified into three groups, as follows: Mathematical defectives, control defectives, general defectives. Those belonging to the second

group are given athletics, calisthenics, geometric construction, wood-carving, pattern-making, mechanical drawing, and Sloyd.

We give below a specimen record, taken from page 89 of the Year Book of this institution for 1899:—

"Cons. No. 8082.

"Received, March 27, 1887; age 21; maximum sentence, 20 years. Italian; father an editor; was intractable at age of ten; accompanied his father to America; became a rover, following petty thieving, saloon work, and later, driving on a canal boat.

"First month's fines, $1.70; second month, degraded for insubordination; following three months, fines averaged $5.23; sixth month, began manual training work; fines for next three months averaged $4.46; for next five months, fines averaged $3.08.

"In June, 1898, after ten months' manual training treatment, he made a perfect record. He was the next month restored to his original grade. For the next six months, the endeavors to honest habits, enforced—as the work in tool processes does—to honesty in detail and mental and muscular control, bore fruit in well-regulated habits. For the succeeding three months in 1899, each were perfect in all respects, and consecutive number 8082 was graduated from Manual Training and returned as an assistant instructor in the department. He was paroled after the usual six months' perfect standing. Reports from this man show him to be doing well."

Added to the above report, is the very pertinent observation that this man, through the benefits of manual training treatment and the operation of the indeterminate sentence, served only two years and four months of his maximum commitment of twenty years.

Since its opening, this institution has received 9,865 inmates. Of the 8,542 discharged, 6,190 have been paroled, and it is estimated that 86.4% of these were permanently reformed. If manual training produces such marvelous results in full-grown, abnormally weak men, who can estimate its powers on the growing youth?

Moral Effects.

The basis of all immorality is untruth. The fall of the great nations of the past was caused by substituting the false for the true. Truth is exact. Therefore the inexact man is not essentially a truthful man—not that he wilfully prevaricates, but not being an accurate man, he is not impelled to painstaking investigation; his motto is, "That is near enough and good enough."

Love of truth is a distinguishing feature of great minds. Milton, Webster and Gladstone have left no more infallible proof of greatness than the historical fact that each at some period of his life had the courage to espouse a cause which he had before combatted. Men have given their lives to establish a single truth; they were great men. To such all lines of truth radiate from The Great Source, and hence there are no grades of truth—a religious truth being no more sacred than a moral, a social or an intellectual one. There is a sense in which goodness and greatness are synonymous.

Truth is taught by "doing." Those subjects that demand exactness and emphasize the value of accuracy, teach truth. Mathematics and the

sciences do this, and hence are moral in their tendencies. To teach accuracy is the business of manual training, and the rapid growth on the part of its pupils toward exactness is a marvel. At first the pupil says, "O, that's good enough," although his line is not straight, his circle not round, and his joint not tight. One-eighth inch is of no account. But he soon changes his measure of "good enough." The one-eighth inch becomes one-sixteenth, then one-thirty-second, and then one-hundredth, until finally he demands absolute accuracy. Truth thus becomes more satisfying than untruth, and he grows toward all truth.

Social Effects.

There is no phase of education more often ignored by the superficial thinker than the social phase; and yet, no question of more significance in its far-reaching influence confronts the student of government.

This is pre-eminently the industrial age. Invention has solved the problem of cheap production and manufacture. The introduction of machinery has forced the division and subdivision of labor, until today the spirit of industrial and professional life is specialization. These conditions have produced a growing tendency to *caste* in vocation. The employer assumes a superiority over his employed; the mechanic over the agriculturist; the clerk over the mechanic; the professional man over the clerk; and the wealthy man over all—a condition contrary to the very genius of our institutions.

Our schools should safe-guard against this tendency; but instead, by emphasizing false ideals of success, they more frequently contribute to this aristocracy of vocation. Moreover, the real tendency of higher education is towards self. The person striving after literary excellence becomes self-centered; as a consequence, selfishness and a higher education often go hand in hand. "How am *I* getting along? How fast am *I* growing? Am *I* developing symmetrically?" These are the questions constantly confronting him. In the manual training work all this is changed. The desire for perfection in self is overshadowed by desire for perfection in the project. Moreover, as the project is not for himself, the pupil is working for others, so that the thought of others must, to a degree, influence him, and develop unselfishness.

Referring again to athletics, the person who has no experience in them cannot appreciate the athletic feat. He sees only physical strength or activity, while the man who by such experience knows the average limitations, is able to fully appreciate the extraordinary and sees more than the physical; *he* sees judgment, co-ordination, courage, will—in short, brain-power and character. So in manual training, the pupil learns from experience how much of will, self-control, judgment, accuracy of sight, delicacy of touch, and real thought there is in the finished product, and he comes to appreciate skill. Artistic designs, perfect joints, fine finish, harmonious coloring come to mean brain-power, and he unconsciously pays the homage of respect to all skilled workmen. Thus manual training, by giving to all a common sympathy, keeps us kin.

COURSES OF STUDY AND COST OF MANUAL TRAINING SCHOOL.

(Manual Training Form No. 5.) Oct. 1, 1900.

"What should pupils learn in the manual training school, and particularly girls?" is a question often asked. It is not easy to answer the above question, as the opinions of educators differ regarding the results to be achieved by manual training. The believer in Sloyd thinks that much of the pupil's personality is ignored if he does not make *things*—see their growth from the draft of the project to the finishing touches. On the other hand, the believer in purely abstract intellectual development thinks any approach towards utility degrades the mind's powers. To him the educative quality of the project is exhausted when the hand has fashioned its different parts. He considers the effort to assemble them into one complete whole a waste of time and a lapse of mental activity. As a result of these divergent opinions, courses of study differ widely. However, as experience alone has taught us the proper academic work for different grades, so it must finally determine the work of manual training as well.

We give below a synopsis of a course of study for sewing, cooking and carpentry, selecting those features upon which there is a general agreement among educators. The work given for the kitchen is quite specific, but owing to lack of space, only a general outline of shop-work is given.

MANUAL TRAINING COURSE FOR GIRLS.

Third Grade—(First Year Work.)

1. Basting.
2. Running.
3. Stitching.
4. Running and back-stitching.
5. Over-casting (top-sewing).
6. Hemming.
7. Making work-bag.
8. Cutting and making under-waist.
9. Stitching simple designs.

Fourth Grade—(Second Year Work.)

1. French seam.
2. Patching.
3. Gathering—plain.
4. Gathering—French.
5. Stroking gathers.
6. Putting on bands.
7. Buttonholes.
8. Sewing on buttons.
9. Drafting skirt patterns.
10. Cutting and making skirt.
11. Additional work: aprons, skirts, under-waists, etc.

Fifth Grade.—(Third Year Work.)

1. Felling.
2. Gusset-making.
3. Hemstitching.
4. Tucking.
5. Cloth-darning.
6. Weaving.
7. Stocking darning.
8. Drafting patterns for some under-garment.
9. Cutting and making the same.
10. Fancy stitching.
11. Additional work: night shirts, gowns, under-garments, drawers, shirt waists, etc.

Sixth Grade—(Fourth Year Work.)

1. Review of pattern drafting.
2. Sleeve.
3. Collar.
4. Waist.
5. Cutting the above.
6. Basting and stitching the same.
7. Finish seams.
8. Tailor button-holes.
9. Loops and eyelets.
10. Sewing on hooks and eyes.

Seventh Grade—(Fifth Year Work.)

(A)

Cooking:

1. Discussion of—
   (a) What it is.
   (b) Effects upon foods.
2. Fuel: wood, gas, coal.
3. Starting the fire.
4. Boiling—
   (a) Note with thermometer changes of temperature of water.
   (b) Effects upon the white of an egg: of cold water; of hot water; of continued boiling; of simmering.
   (c) Study in similar manner effects upon fresh meat. Deduce that the proper temperature for cooking albumen is just below simmering point.
   (d) Experiment in similar manner with salted meats; smoked meats.
   (e) Make beef tea.
   (f) Experiment with starch and flour.
5. Make blanc mange.
6. Make a salad—serve the same with vegetables or meat.
7. Boil potatoes; beets; onions; squash, etc.
8. Make vegetable soup.
9. Boil oat meal—other cereals. Study cereals.
10. Boil rice; make custard.
11. Boil coffee, and cocoa. Study them.
12. Boil and bake macaroni. Study its manufacture.
13. Make corn starch pudding.

Lessons on utensils used in cooking.

(B)

Stewing:

Experiment with tough meats with and without acids—(lemon juice, etc.).

(C)

Broiling:

Study names and positions of steaks; selection of different meats. Toast bread. Make milk toast. Study utensils used in broiling.

(D)

Baking:

1. Experiment with yeast, soda, cream of tartar, sour milk, baking powder. Show in each the presence of carbonic acid. (Lighted taper extinguished.)
2. Distinguish soda from cream of tartar.
3. Make yeast. Discuss the yeast plant.
4. Make pop-overs, biscuits, muffins, corn-bread, wheat bread, etc.
5. Bake meat: compare with broiled and boiled meat. Select best pieces; basting; solid and rolled roasts.

Eighth Grade—(Sixth Year Work.)

1. Review of previous year's work.
2. Particular attention to pastry cooking.
3. Household economics:—
   (a) Prepare menus for different seasons.
   (b) Prepare menus for certain number of persons at stipulated cost for each.
   (c) Comparison of cost of different menus.

MANUAL TRAINING COURSE FOR SHOP.

1. Drawing: Geometric forms drawn to a scale; projections, (a) of line, (b) of plane; beveled corner of frame; mortise; dovetailed tenon; various kinds of joints; drawing from objects; making objects from drawings; lettering.
2. Use of Instruments: T-square; 45°-triangle; 30° and 60°-triangle; dividers; compasses; drawing pen; bow pen; protracter.
3. Woodwork: (a) use of tools: saw, plane, chisel, square, try-square, bevel-square, compasses, gauge.
   (b) Making joints: half-and-half closed joints, half-and-half open joints, miter joint, simple mortise and tenon joint, double mortise and tenon joint, oblique mortise and tenon joint, dovetail joint, dowel joint, rafter joint.
4. Projects: boxes, chests, tables, step-ladders, wardrobes, book-cases, or any other article not beyond the pupil's skill that does not take too much time.

COST OF MANUAL TRAINING.

Owing to the great variety of manual training work the "cost" is a very elastic term. While there are in the United States a number of manual training schools whose courses of study compass everything pertaining to the subject, the necessary expense is so great as to be practically prohibitive except in the largest cities; and even there, but for endowments, few of them would have an existence.

It is not necessary, however, to the success of the manual training idea that such extensive courses be adopted. The fundamental benefits may be compassed by a course so narrow as to include only carpentry and cooking. These are within the financial reach of every small city.

We give below the estimated cost of an equipment sufficient to meet the necessities of a shop and kitchen each fitted for from 24 to 30 pupils. These figures are furnished by men experienced in outfitting and directing manual training laboratories.

Equipment.

1. Ward buildings for 5th and 6th grade, sewing and knife-work, $25 each.
2. Woodwork Laboratory for higher grades, $400 to $600.
3. Cooking Laboratory for higher grades, $300 to $600.

*Running Expenses.**

5th and 6th grades. No. boys, 298. Total cost of materials for year, $34; per pupil	$0.113
5th and 6th grades. No. girls, 342. Total cost of materials for year, $30; per pupil	0.087
Higher grades. No. boys, 356. Total cost of materials for year, $88; per pupil	0.219
Higher grades. No. girls, 408. Total cost of material for year, $300; (a) per pupil	0.735

CONCLUSIONS.

From our investigations of manual training in the public schools we are fully convinced of the following:

First—That the pupils, especially boys from 14 to 16 years of age, are better satisfied with school.

General Francis A. Walker says, "There is no place, or only a most uncomfortable one, for those boys who are strong in perception, apt in manipulation, and correct in the interpretation of phenomena, but who are not good at memorizing or rehearsing the opinions of others, or who, by their indifference or slowness of speech, are unfitted for ordinary intellectual gymnastics."

Second—That it tends to create and maintain interest in other school work.

Third—That it offers a broad culture.

Supt. C. F. Carroll, Worcester, Mass., says, "What we most regret is that some of those who are heard the oftenest upon educational questions, have not yet caught the significance of the doctrine that manual training is from the beginning, an indispensable part of a liberal education."

Fourth—That it does not add anything to the school burden of pupils, but by developing the pupil's practical side, enables him to master his academic work enough easier to more than off-set the time put upon the manual training work.

Fifth—That it encourages thrift, industry, and love of skillful work, and cultivates a respect for the skilled workman.

Sixth—That it is a protection against the deadening effect of our present system of labor. Ordinarily a lad enters a shop not to learn a trade, but to become expert in the running of some machine. He succeeds, and day after day, month after month, year after year, stands before that same machine a mere automaton,—as soulless as the machine he controls, and about as little considered in the industrial world. No wonder he is in want when some invention supplants the machine which has become a part of his existence. Had his aptitudes been developed by manual training in school, he would be able to quickly adjust himself to the new condition of things. Or a girl enters a kitchen not to become a housekeeper, but to execute in a machine-like manner the plans of another. Week in, week out, she prepares the menu planned by another; she sets the table at the time and in the manner planned by another;

*These figures were taken from Annual Report of the Kalamazoo Manual Training School.
(a) This includes wood, coal, gas, and printing of cooking lessons.

she washes the dishes and arranges them in the china closet as directed by another. She sweeps, dusts, and does the washing on days selected by another. In short, her personality is quietly smothered. Is it any wonder that girls with active minds and some originality cannot content themselves with the automatic round of the ordinary domestic?

Creativeness puts soul into work. Who has not seen the eye of the aged farmer sparkle as its owner recounts his conquests of the forest, changing year by year the face of nature itself—creating a new earth? And how like drudgery farming must become when nothing new enters into the work!

Seventh—That it develops love for order, exactness, and cleanliness, and teaches the principles of economy.

Eighth—That it trains and develops the perceptive and analytic, constructive and inventive faculties, and gives excellent opportunity for originality.

Ninth—That it lengthens the school life of those boys whose tastes are not especially intellectual by giving them school work in which they can see tangible benefits.

About three-fortieths of the population of a city are of high school age. In a city of 20,000 people there would be, then, 1,500 young people of high school age; in a city of 100,000 population, 7,500 such pupils. Statistics show, however, that not one-fifth of that number are enrolled in the high schools of the cities of this state—in many cases not one-tenth. This is not because such pupils come from poverty-stricken homes, but because they—especially the boys—do not find in the high school that which appeals to them, either from an educational or practical point of view. On the other hand, manual training work has a wonderful attraction for boys. Take as an example the experience of The Chicago Manual Training School. This school exacts regular high school work, and, in addition, one hour a day in drawing and two hours in shop-work; and yet, although Chicago has plenty of high schools so situated that some one of them is within easy reach from any part of the city, many boys elect to go miles to attend this school. Some of them must start early and return late; two of its graduates, for three years, made a daily journey of eighty miles to attend this school, although a good high school existed near their own home—a city near Chicago.

Tenth—That it gives the great mass of pupils—children of the poor, who cannot finish the high school—a mental equipment for the activities of life which the ordinary schools cannot give.

Eleventh—And last, though by no means least, that the practical business men and women believe in the idea.

MANUAL TRAINING IN MICHIGAN.

ANN ARBOR.

Manual training was introduced in Ann Arbor in September, 1900. It begins in the fourth grade and continues through the eighth. Some elective high school work is also done. About 900 pupils are taking the work this year in the different grades. Instruction at present is given by two teachers. It includes Sloyd and shop-work in wood for the boys; sewing and cooking for the girls. The work is under the supervision of Superintendent of Schools H. M. Slawson.

The work so far is favorably received and the outlook for its further introduction is good.

BAY CITY.

Manual training was introduced into Bay City high school in 1891. It consists of carpentry and wood-turning in ninth and tenth grades, with about 60 pupils taking the work. This year cooking has been introduced in the sixth, seventh and eighth grades. Over 550 girls take this work. The boys in these grades take mechanical drawing while the cooking lesson is given. Sewing is taught once a week in the third, fourth and fifth grades to about 600 girls. Until this year sewing had been taught after school to such as desired to take it. There are two "centers" for cooking, to which pupils from different ward schools go for instruction. The work here is very popular.

CALUMET.

The Calumet manual training plant was established by the Calumet & Hecla Mining Company in 1899. It was introduced first into the high school. The boys have carpentry and wood-turning one hour each day; forging and machine-shop two hours each day. The girls have sewing one hour each day. Both shop-work and domestic science extend through the entire four years' work of the high school. All the work is based upon mechanical drawing. As the work was so recently introduced, the domestic science laboratories were not equipped at the time of the visit by our representative, but were to be as soon as the new plant authorized by Pres. Alexander Agassiz, of the Calumet & Hecla Mining Company, is completed.

The shop-work here differs quite materially from that of other schools visited, in that the work is all directed to utility. Pupils make things to be used. This is especially true of the work in iron and steel. Every piece made is for use in the mining work, and we were informed that it would cost the company as much to buy the pieces made by the students as it did to run that part of the school; in other words, the work is self-supporting. Here was found some of the most remarkable work seen anywhere. It seemed incredible that boys could so quickly learn the secrets of such skill, and tends to show how much time is wasted in learning a trade in the ordinary hap-hazard way. Here, too, was found the most intense interest in the shop-work. There seemed

to be a feeling of ownership in every piece of work being made. The boys said, "This is my job," and there seemed to be a sense of personal responsibility not manifest where several worked on the same project. It would be difficult to determine whether this was owing entirely to the Sloyd idea, or whether it was not in part owing to the environments of the pupils. They have been reared in the midst of a world by itself, for Calumet is not like any other city in Michigan. All the work they had ever seen was in the line of mining. Their fathers and brothers are miners, and they expect to be connected with that industry in some of its departments. All these conditions give to their work a reality not found in the ordinary manual training schools. Supt. F. W. Cooley, of the Calumet schools, says, "We have found that this idea of practicality adds much interest to the boy's idea of the work. It means much to the boy to realize that his work, if well done, will be placed alongside of the work of men, and will be useful in the practical world."

We shall watch with much interest the outcome of this phase of manual training in its effects upon the academic work of pupils.

DETROIT.

At different times during the past decade efforts have been made to establish manual training in the Detroit city schools, but no definite action was taken by the board of education until the spring of 1899, when an appropriation of $5,000 was made for the purpose of introducing it in the elementary schools. Following this action a manual training center was established in the Tilden school in October, 1899, and a few months later, at the Campau school.

These centers accommodated the pupils in the seventh and eighth grades from the ten schools in their vicinity.

This year an appropriation of $6,000 was made, and centers have been established at the Duffield and McGraw schools. These centers each accommodate 750 pupils—375 boys at bench-work and the same number of girls in the cooking class—each receiving instruction one and one-half hours per week.

The general plan of the work is as follows: In the fourth grade both boys and girls are taught cardboard construction by the grade teachers, the work being so arranged that instruction can be given to a class of fifty pupils. In the fifth grade the regular teacher continues the cardboard instruction for the boys, while a special teacher instructs the girls in sewing. In the sixth grade the regular teacher carries on the cardboard work with the boys—knives being substituted for scissors, and thin wood taking the place of the cardboard during the latter half of the year. The girls in this grade are taught sewing by a special teacher.

In the seventh and eighth grades bench-work is given the boys—the models being selected with reference to utility—while cooking is taught to the girls. It will thus be seen that special teachers are employed only for the girls in fifth and sixth grade sewing and seventh and eighth grade cooking, and for the boys in bench-work.

The use of cardboard instead of wood in the lower grades is an innovation peculiar to Detroit among the Michigan cities visited. Its substitution for wood is an outgrowth of the demand in Boston for manual training work which could be carried on by the regular grade teacher.

Prof. Trybom, director of Detroit manual training work, with the assistance of Misses O'Connor and Wilson, developed a constructive cardboard system which seems to meet the demand and is now on trial in Boston as well as in Detroit. The friends of manual training will watch the experiment with much interest.

In the adoption of manual training in the grades before its introduction in the high school, Detroit has departed from the customary procedure. It is, however, expected that the work will be extended to include the primary grades at one end of the system and the high school at the other. Detroit has taken up the manual training idea with its usual conservatism, introducing it by easy stages and placing it under competent instructors. The work has the firm, unqualified support of Superintendent of Schools, W. C. Martindale, which fact insures its success.

FLINT.

Flint introduced manual training on a small scale in 1899. This year the work has been much extended and includes the following:

For Boys—Seventh grade, Sloyd, drawing of articles first made. The course begins with plain geometrical figures and is graduated up to projects of three dimensions. In eighth grade bench-work, including truing, planing, sawing and filling is introduced. In ninth grade more advanced bench-work, and in the higher grades mechanical drawing, leading up to machine designs.

For Girls—Seventh and eighth grades, sewing, including the various kinds of stitches, etc., followed by the making of articles, garments, etc.

GRAND RAPIDS.

Manual training in Grand Rapids has had a peculiar history. Several times the board of education placed an appropriation for its introduction in the school budget, but it met with sufficient opposition in the council to secure its defeat. The friends of the idea, however, were not dismayed. A systematic plan of education on the subject of manual training was inaugurated. Lectures upon the subject were given; influential men among the opposition were persuaded to visit manual training schools and study their workings and the idea. Newspapers gave much space to its discussion. With increased knowledge concerning the subject came an increase of support and a corresponding weakness in the opposition, until at last, in 1900, an appropriation of $5,000 passed the council with but four dissenting voices, and the work is being inaugurated at the present time.

The boys in the fifth and sixth grades will have knife work, the girls sewing; in the seventh grade the boys will have shop-work and the girls cooking. The work will be extended next year.

The Grand Rapids experience is the experience of many other cities; viz., first, that much of the opposition to manual training comes from those who would be the most directly benefited—the poor man; second, that opposition vanishes in proportion as the manual training idea is understood.

We consider Grand Rapids a typical city for manual training, and

shall be much disappointed if it does not meet with marked success there. The present movement, we believe, marks an era in the educational history of that city.

ISHPEMING.

The present condition of manual training work in the Ishpeming schools is the result of a growth of public sentiment brought about by witnessing its workings. Several years ago a small amount of shop-work was introduced as an experiment. It proved a success and more was added. Each addition but increased the demand for a wider range of work, until at the time of our visit the work included carpentry, forging, use of jig-saw, planer and shaper, molding, and casting.

One of the special features of this school is the making of physical apparatus and school fixtures, such as shelves, cupboards, etc. Free-hand drawing is not commenced in the schools until pupils reach the manual training work. But here both free-hand and mechanical drawing are given special attention, and the results obtained are something surprising. The question, "Is time not lost in teaching drawing in the grades before pupils appreciate the value of it?" continually presented itself; but an anchorage, grown gray with years and strong with unquestioning acceptance, prevented any great amount of drifting from orthodoxy.

During the past summer a manual training building was built in which the work will be very much extended; the old manual training room was also fitted up as a laboratory for the girls' manual training work. A very interesting thing in connection with the completion of the new building is that the manual training students are doing all of the inside work, and making every piece of new apparatus—benches, drawing stands and dynamo—and putting in the electric lighting plant and motor.

The manual training work is under the control of Supt. J. E. NeCollins, of the city schools. The director of the work is O. G. Peterson, formerly of Ann Arbor.

KALAMAZOO.

The proposition to establish manual training in the Kalamazoo public schools was submitted to a vote of the people at the annual school meeting held June 5, 1899, and carried by a vote of 265 for and 160 against. This proposition allowed the sum of $4,000 to be spent for equipment and expenses for the current year.

The equipment in each ward school building consists of a cabinet containing thirty trays to hold the tools for boys, and thirty drawers to hold sewing materials for girls. Each tray contains a T-square, 45° and 60° triangles, rule, pad of drawing paper, compasses and a carving knife. The trays fit upon the school room desks, and while protecting the desks, serve as tables on which to work.

The manual work starts in the fifth grade and during fifth and sixth grades the boys work at mechanical drawing, knife work and chip carving and the girls at plain sewing and the making of simple garments.

The manual work of the seventh, eighth, ninth and tenth grade pupils is done in the cooking and woodworking laboratories in the high school building. These rooms are directly under the assembly room.

The pupils are sent from the ward school buildings once a week and the lessons are for one and one-half hours.

Nothing is made to sell and the exercises are not always of practical use, as the object sought is education. If anything can be made that is needed in the school, and it is considered that education can be developed at the same time, the article is made.

The eighth, ninth and tenth years' work, when the course is completed, will consist in more advanced woodwork exercises and include some cabinet making, pattern making, wood carving and mechanical drawing. The pupils will be taken to visit and inspect manufactories and various industries in the city, so they will understand how articles are manufactured for the market.

The girls work in the domestic science laboratory one and one-half hours a week. This room is equipped for classes of thirty-two pupils.

The public night school is held in the high school building Monday, Tuesday, and Thursday evenings, and two classes in cooking, for women, are receiving instruction. There are also two classes for men in mechanical drawing and shopwork, also classes in chemistry and bookkeeping.

Kalamazoo stands in a position by itself, different from most other cities. The people of Kalamazoo voted to start the school and instructed the Board of Education to do so. Generally cities have had some citizen who established a manual training school and afterwards gave it to the city.

MARQUETTE.

Marquette had the misfortune to lose its high school building by fire, and at the time of the visit was considering plans for a new building. These plans contemplated provision for a well equipped manual training department in connection with the high school. Certain public-spirited citizens had already signified their intention of donating $1,000 or more, to be applied in the equipment of such a school; consequently, we anticipate that in the near future Marquette will have a manual training department second to none in any city of its size in this state.

MUSKEGON.

The manual training work in Muskegon began in 1896. Shopwork and drawing were introduced for boys in connection with the commercial and mechanical courses, and sewing for girls of the commercial and domestic courses. The boys worked in the high school basement, the girls in the attic.

In October, 1897, the Hackley Manual Training School was dedicated, being the first building of its kind in Michigan. Two years before this Mr. Charles H. Hackley had, through the Board of Education, tendered to the city of Muskegon $30,000 for building and equipping a manual training school. He also agreed to give annually $5,000 towards the running expenses, and at his death to provide an endowment of $100,000, the income of which should be used to defray running expenses of the school. In this year (1897) the work included carpenter shop and wood turning shop for boys; sewing room and kitchen for girls. In 1898, a foundry, blacksmith shop, gymnasium, laundry, and additional sewing

room were added. In 1899 the machine shop was equipped, and in 1900 a room for clay modeling was fitted out. Plans were also drawn for the addition of two wings when the present building shall become too much crowded. The plan of the building, the equipment, and course of study, were made after an extensive investigation of manual training schools in several states, by David McKenzie, superintendent of Muskegon city schools, and a committee of the school trustees. The course of study is very complete, and it is compulsory from the fifth grade to the tenth inclusive. The enrollment in 1899 was 620.

As the Muskegon manual training school is the most complete in the state, we give below one of its long courses of study, and also its domestic course in drawing.

Mechanical Course.—First year.

Joinery: Ten periods a week for eighteen weeks.

The care and use of different hand tools, and the making of joints; the nature, growth, preparation, and preservation of wood. The collection of different varieties of wood.

Carpentry and Cabinet Work: Ten periods a week for nine weeks. The elementary principles of carpentry; the application of board and brace measure as found upon the carpenter's square; tension, compression, and cross-strain; project work; construction of a desk or book case.

Wood Carving: Five periods a week for nine weeks.

Mechanical Drawing: Four periods a week for twenty-seven weeks. Geometric construction and interlaced design, involving the use of the drawing board, T-square, triangles, and scale, and the application of India ink; the care and use of instruments; working drawings to scale; orthographic and isometric projection.

Free-Hand Drawing: One period a week for twenty-seven weeks.

Practice with straight and curved lines, and flat tinting with pen and ink; outlining and shading a rectangular block and a cubical frame from the model; lettering practice on some single style of alphabet.

Designing: Five periods a week for nine weeks. Geometric and free-hand designs related to carving and surface decoration.

Mechanical Course.—Second year.

Wood Turnery: Ten periods a week for eighteen weeks.

Center, face-plate, and chuck turning; staining and polishing; sources and uses of oils, gums, and resins.

Pattern Making: Ten periods a week for eighteen weeks.

A large proportion of the pattern work is for projects to be built in the machine shop.

Mechanical Drawing: Three periods a week for thirty-six weeks. Pattern drawing and design; tracing and blue printing; sketching parts of machines from which working drawings are made.

Designing: One period a week for eighteen weeks.

Free-Hand Drawing: One period a week for thirty-six weeks.

Principles of perspective; wooden models outlined with the pencil and shaded; representation of their shadows with pen and ink.

Geometrical Drawing: One period a week for eighteen weeks.

The construction of problems with the steps of the processes expressed in order by equalities, and the signs of parallelism and perpendicularity.

Mechanical Course.—Third year.

Moulding and Casting: Ten periods a week for fifteen weeks. Bench and floor moulding; making and baking cores; casting iron and brass; principles of metallurgy.

Brazing and Soldering: Ten periods a week for three weeks. Brazing steel, brass rings, and band saws; cutting out and soldering sheet metal work.

Forging: Ten periods a week for eighteen weeks.

The elementary processes of forging, including welding and tempering; the making of useful articles, such as chains, tongs, bolts, a set of lathe tools, and a set of moulders' tools; study of the properties and manufacture of cast iron, wrought iron, and steel.

Mechanical Drawing: Three periods a week for thirty-six weeks. Principles of descriptive geometry. Assuming geometric solids in simple position, and rotating them into compound positions; shading them with water color or India ink, and casting their shadows; proof of the method of isometric projection; passing a plane through a cone and the development of the conic sections; orthographic projections of intersecting solids and the development of their surfaces; ornamental lettering and border design.

Free-Hand Drawing: Two periods a week for thirty-six weeks. Drawing from casts; shading—(a) ink, (b) pencil, (c) charcoal.

Mechanical Course.—Fourth year.

Machine Work: Ten periods a week for eighteen weeks.

Exercises in turning and screw cutting; use of the drill, planer, shaper, milling machine and emery grinder; chipping, filing, scraping, and inlaying.

Domestic Course in Drawing.—First year.

Free-Hand Drawing: Three periods a week for thirty-six weeks. Copying two or three picture sketches to acquire touch and method of shading, after which models from still life may be shaded with pen and ink.

Mechanical Drawing: Two periods a week for thirty-six weeks. See mechanical drawing in mechanical course.

Domestic Course in Drawing.—Second year.

Free-Hand Drawing: Three periods a week for thirty-six weeks. Principles of perspective; wooden models outlined with lead pencil, and shaded with pen and ink, including shadows; copying one or two cast drawings.

Designing: Two periods a week for eighteen weeks.

Free-hand and geometric designs suitable for wood carving and surface decorations; border design; tinting with water color; practice in free-hand lettering.

Mechanical Drawing: Two periods a week for eighteen weeks. Geo-

metric problems, with the orderly steps of construction expressed by writing relations; geometric solids in simple position drawn in plan and elevation, and shaded with water color; their shadows cast mechanically.

Domestic Course in Drawing.—Third year.

Free-Hand Drawing: Three periods a week for thirty-six weeks. Drawing from casts with pencil, charcoal, pen and ink; sketching from life; out-door sketching from nature.

Decorative Design: Two periods a week for thirty-six weeks.

Domestic Course in Drawing.—Fourth year.

Water Color Painting: Five periods a week for eighteen weeks. Painting of flowers, fruits, vegetables, books, furniture, draperies, landscapes, stuffed birds, animals, etc.

Oil Painting, China Painting, or Advanced Electives: Five periods a week for eighteen weeks.

In this school, as in most manual training schools, drawing is the basis of all the work. No pupil is allowed to construct a project except he first has made a drawing of it.

Connected with the school is a well equipped gymnasium also, for girls. This will be made more extensive when the additions above mentioned are built.

There are eight instructors employed, under the direct supervision of E. D. Hoyt, formerly of Ann Arbor.

The Muskegon manual training school has had financially "easy sailing." The cost of outfitting a complete manual training school often staggers the tax-payer, and many a believer in the idea hesitates to incur the necessary expense. Many cities might well wish that they, too, possessed a Charles H. Hackley. But where "much is given, much shall be required," and manual training under the best conditions is on trial in Muskegon, and we believe that much of its future in Michigan will depend upon the results here. We have, however, no fears of the outcome.

MENOMINEE.

Manual training work in Menominee is the result of a sentiment created by a zealous, believing, working woman's club, seconded by a progressive, courageous superintendent of schools. At first a small amount of money was raised by subscription as an experiment. Members of the Woman's Club attended the schools and supervised the sewing work. Meetings were held to discuss the matter. As a result, sufficient interest was developed to secure a vote for an appropriation to establish manual training in the schools.

A room in the basement of the beautiful high school building was fitted up with drawing stands, benches with vises, turning lathes, all with proper outfits for twenty boys. To this was added a five horse-power motor. The cost of all this was in round numbers only $1,000. (It is but just to say, however, that the benches were not purchased, but were made under the guidance of a practical mechanic.)

Sewing is taught to 300 girls, in the fifth, sixth, seventh, and eighth grades, by a teacher who gives half-time to the work.

The boys in the sixth grade take Sloyd. Those in the seventh and eighth grades take shop work. In all these grades the work is compulsory; in the high school it is elective, and yet about two-thirds of the high school boys take the work.

Supt. Woodley believes that the main manual training benefits lie in the drawing and carpentry, and he states that a working outfit for twenty pupils need not cost over $300. The shop work is under the direction of F. B. Williams, who is an enthusiast in the work. The sewing is under the direction of Mrs. F. B. Williams. In no place did the Board of Education, citizens and pupils show greater enthusiasm for manual training.

SAGINAW.

Saginaw introduced manual training in the fifth and sixth grades at the beginning of the present year. Knife work is taught to about 450 boys, and sewing to 525 girls. Two special teachers are employed, who go from building to building giving instruction one hour each week. The interest is good and the work promises to grow until a very complete manual training school is supported. E. C. Warriner, superintendent of the city schools, is enthusiastic and hopeful.

The above list of Michigan cities shows that manual training has a strong hold upon the school sentiment, but it does not show its full strength. Another year will see its introduction into many more schools. Indeed, our great fear now for the future of manual training is that many schools will plunge blindly into it on an expensive scale, with neither money nor public sentiment sufficient to support it through its infancy, and thus bring it into disfavor.

MANUAL TRAINING SCHOOLS VISITED IN OTHER STATES.

CHICAGO.

Chicago never does things by halves, and its work in manual training is no exception to the rule. The first school was established through the influence of the Commercial Club of Chicago. It opened in February, 1884, under the direction of Dr. H. H. Belfield. Its equipment is complete in every detail. Its teachers enthusiastic and pupils vigorous. The high school work is complete, and in addition to it is the manual training work. This work is elective, and yet young men from every part of this city flock to this school. Besides this manual training school there are a number of others. Manual Training Form No. 3 gives reference to the Jewish Manual Training School, a very interesting school indeed, supported entirely by bequests and donations. Other training schools, such as the Chicago Manual Training School of the University of Chicago, the Armour Institute, etc., are well known as among the best in their class; but space forbids further mention.

investigations by Michigan's well known ex-superintendent, W. W. Chalmers, formerly of Grand Rapids. The manual training work is under the supervision of Virgil Curtis, a genial gentleman and an enthusiastic believer in his work. Indeed, this is one of the peculiar features of the manual training teacher wherever found.

Besides the plant connected with the high school there are five "centers" or local plants for seventh and eighth grades in woodwork and kitchen. During the present year the name of the school has been changed to the Toledo Polytechnic School.

PLAN OF WORK.

It is essential that some method of work be adopted in manual training by which the most can be accomplished with the least loss of time from other school work. The plan usually adopted by cities having manual training work is about as follows: A manual training laboratory—workshop, kitchen, and dress-making room for 24 to 30 pupils—is located near the high school, to which pupils repair in classes at stated times. In the largest cities there are usually several such schools to correspond with the number of high schools.

In addition to the above there are in some of the cities manual training "centers" fitted up, in such ward buildings as are most convenient, with shop and kitchen outfits for about 24 pupils. To these "centers" pupils are sent from the ward schools of that locality. Besides this there are the sewing and whittling rooms fitted up in different ward buildings in which these subjects are taught. The teachers who teach this work go from building to building to give the instruction.

TOOLS.

The ordinary manual training woodworking shop is usually fitted up with the following individual tools: Three planes—fore, jack, and smoothing; a set of chisels, and a set of bits; a 12-inch steel square, trisquare, bevel-square, hammer, mallet, rule; saws—cross-cut, rip, back; gauge, dividers, bit-brace, knife, nail-set, and pencil. In addition there is usually a special set of tools, kept in some convenient part of the room, which each boy can use for any special work.

In the ward whittling work buildings each boy is furnished with a tray containing a knife, compass, T-square, triangle, scale, and pencil.

The material for all the work is provided by contract. The perishable material for the kitchen is ordered day by day; the other kitchen material week by week. One of the most efficient lessons in domestic economy is practiced here, as not an ounce of material is allowed in excess of the actual needs for the prescribed work. Each girl must make her allowance do her work. The sewing material is provided in much the same way, there being no waste allowed. In some cases parents who desire their girls to do more than the regular work—perhaps make some garment for themselves—furnish the material.

In the shop, the same rigid economy is enforced. The boy is given just enough lumber to make his project, and he must so apply his patterns as to get it out of the lumber given him. Thus elements of economy, so essential to success in life, are inculcated. But it is not only for

CLEVELAND.

The beginnings of manual training in Cleveland, Ohio, were very humble. In February, 1885, a small carpenter shop was started in a barn, situated on Kennard street, near Euclid avenue, for the benefit of some boys in the Central high school. Through the diligence and enthusiasm of these boys the value of manual training was brought to the notice of some business men. Meetings were held and the question of establishing a manual training school was discussed. A stock company with a capital of $25,000 was formed for the purpose of "promoting education, and especially for the establishment and maintenance of a school of manual training where pupils shall be taught the use of tools and materials, and instruction shall be given in mechanics, physics, chemistry, and mechanical drawing."

The school was opened in February, 1886. Soon after this the state legislature passed an act authorizing the city of Cleveland to levy a tax of one-fifth of one mill for manual training and domestic purposes.

The organizer of the movement in Cleveland was Mr. Newton M. Anderson. In September, 1885, the school opened with 125 pupils, which in three years increased to 325. Three new "centers" are being provided. The manual training work is under the supervision of William E. Roberts.

MENOMONIE.

The Stout Manual Training School building was erected and equipped by Senator J. H. Stout, of the Knapp-Stout Company, in 1890. The experiment proved a gratifying success, and accordingly the manual training work was incorporated into the school courses and a new building was erected adjoining the high school. In 1897 the high school and manual training buildings were destroyed by fire. An additional block of land was secured and plans made for a much larger building. Through the generosity of Mr. Stout, who has spared no expense, the building and equipment are complete in every detail from the kindergarten to the art studios. The manual training work is a complement to the public school, the high school students having one exercise each day and the lower grade pupils two each day.

In connection with the manual training school is a normal school for the instruction of rural teachers. This is one of Senator Stout's ideas, and through his influence a law now stands upon the Wisconsin statute books by which such normal schools may be established and certain aid for their support drawn from the state treasury.

The manual training work is under the direction of F. W. Kendall; the normal department under W. E. Morrison.

These two educational features have given this little city of 6,000 inhabitants an almost national reputation, and hundreds of educators have made long journeys to study their plans. It is estimated that the building and equipment cost $130,000.

It would be difficult to imagine a man more modest, genial, enthusiastic, and original in ideas than Senator Stout, the founder and benefactor of this school—and the city as well, for his public generosity extends to other lines.

MINNEAPOLIS.

Manual training was incorporated into the schools of Minneapolis in the year 1887. There are at present three workshops connected with each of the three high schools—Central high school, North high school, and South high school. In each of these schools special attention is given to drawing.

There are also six schools for cooking and five schools in Sloyd for seventh and eight grade pupils. The course is compulsory in the grades, but elective in the high school. Manual training is supported here by taxation, and, as in Cleveland, it must stand or fall by the attitude of the tax-payer. The work seems here to be satisfactory and in a thriving condition, showing that it has justified its existence in the eyes of the tax-payer.

The work is under the supervision of J. E. Painter, a gentleman who believes fully in the educational phase of manual training, and succeeds in inculcating his belief in the work of the students. He does not believe, however, that any educative value need be lost in allowing students to work out individual projects under certain conditions.

Manual training has existed here long enough to "find its level," and it has struck a high one.

ST. PAUL.

The manual training work in St. Paul was not found to be in so prosperous a condition as in other cities visited. The supervisor, George Weithrecht, however, is not discouraged, but is sure that the trouble—a financial one—is temporary, and that the coming year will see much better financial conditions. The manual training work originally was obligatory, but at present the rule is not enforced, as some of the manual training rooms were closed. Mr. Weithrecht is an enthusiastic believer in the manual training idea, and we believe if anyone can revive the interest in the work, he can and will do it.

TOLEDO.

The Toledo movement was inspired by Mr. E. A. McComber, seconded by Messrs. William H. Scott and Frank Scott. It was founded through the generosity of Jessup W. Scott and William H. Raymond, in the years of 1872-3, Mr. Scott deeding land valued at $50,000, and Mr. Raymond making a gift of $15,000. The following year, Mr. Jessup Scott having died, his widow and his three sons made a further conveyance of property valued at $50,000. In 1884 the trustees of the school tendered the entire plant to the city of Toledo, which tender was accepted. Toledo thus stands as one of the pioneer institutions of its kind in this country.

Since this time the school has been a part of the Toledo public school system. Its course of study is one of the most complete of any visited. The work begins in the fifth grade and extends to the high school. Perhaps as enthusiastic a class as the Department representative found was the class in clay modeling in this school.

Our representative was cordially received and ably assisted in his

investigations by Michigan's well known ex-superintendent, W. W. Chalmers, formerly of Grand Rapids. The manual training work is under the supervision of Virgil Curtis, a genial gentleman and an enthusiastic believer in his work. Indeed, this is one of the peculiar features of the manual training teacher wherever found.

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A COOKING CLASS.

FIFTH AND SIXTH GRADE BOYS' WORK.

HIGH SCHOOL BOYS' WOOD-WORK LABORATORY.

the interest of the pupil that rigid economy must be practiced in manual training work, for it would be easy by only a slight waste on the part of each pupil to create so great a loss in the aggregate, as to bankrupt the manual training idea wherever supported by taxation.

WHAT BECOMES OF THE GRADUATES OF MANUAL TRAINING SCHOOLS?

It would be difficult to say what becomes of the graduates of any school, inasmuch as few take the trouble to keep track of them. This, however, is such a vital question in the discussion of the manual training work, that the director of the St. Louis manual training school has taken pains to keep a full record of its graduates during eleven years. We give below a summary of their statement regarding each of over 500 graduates:

Architects	12
Artists	3
Bankers or brokers	5
Bookkeepers	10
Carpenter	1
Clerk (cashier or stenographer)	1
Clerks (hardware or manufacturing)	35
Clerks (railroad or general offices)	28
Clerks (mercantile)	31
Commercial travelers	8
Contractors	5
Dentists	2
Draftsmen (for architects)	11
Draftsmen (for manufacturers or railroads)	42
Electricians	18
Engineers, civil (with degrees)	11
Engineers, mechanical (with degrees)	16
Engineers, electrical (with degrees)	2
Engineers, mining (with degrees)	9
Engineers, assisting (without degrees)	27
Engineer, steam	1
Farmers or fruiterers	8
Foremen (in factories)	4
Foremen (in drafting or designing rooms)	4
Insurance	4
Librarians	2
Lawyers	8
Managers or superintendents of industrial establishments	23
Manufacturers	23
Merchants	21
Machinists	8
Mechanic (of other sorts)	1
Master mechanic of railroad	1
Physicians	12
Real estate or loan business	14

Students (the year this report was made)	91
Teachers	30
Unknown or unemployed	29
Deceased	14

Of this whole number more than one-third took higher education, general or professional.

HOW DOES MANUAL TRAINING DEVELOP BRAIN POWER?

The human brain consists of an outer layer composed largely of brain cells, and an inner layer composed of nerve fibres. The brain cell generates nerve energy; the fibres conduct this energy. We are told by scientists that the number of cells in the human brain is as great at birth as in mature life. If this be true, brain development consists in the growth of these cells and the putting forth of these nerve fibres. The proper development of these fibres is as necessary as that of cell growth. It will readily be seen from the above that it is not the size of the brain nor the number of brain-cells that gives brain power, but the number and size of the cells that can be *used;* in other words, brain power depends upon the development and co-ordination of brain-cells and brain fibres. Anything, be it study or physical exercises, that develops in a person the power to use more brain-cells and brain fibres, develops brain power, because it increases the size of the cells and the co-ordinative power. A person with the largest muscle is not always the strongest person. His strength is measured by his power of co-ordination of will, nerve, and muscle. No man ever reached the full measure of his muscular strength. There are cases of tetanus recorded in which the muscles of the arm contracted with sufficient force to break the arm bones, showing the enormous strength residing in the muscles; but no man ever yet had sufficient co-ordination of will, nerve, and muscle to do this himself. As a man never quite reaches his physical possibilities, so he never reaches the full limit of his mental powers.

The brain has a motor power as well as a sensory power. The equilibrium of both must be maintained or a person becomes mentally unbalanced. Over-development of motor power tends to the brutal; of sensory power, to the visionary. A man of energy is a man of brain. Irresolution, indolence, and freakiness, are indications of either motor or a sensory brain deficiency. Imbecility is shown in muscular movement as well as in thought and speech.

Brain cells are either sensory—those that receive impulses from the special senses; or motor—those that generate the energy that causes the muscles to contract. Both classes of cells are grouped together in different parts of the brain, called brain areas, and in these areas are the "centers" of nerve energy. We can locate in the sensory area the auditory and visual "centers;" and in the motor area, the trunk and hand-and-arm "centers." These sensory and motor areas, however, are not distinct from each other, but are intermingled so that one seldom acts without there being action on the part of the other; for example, sensa-

tion may cause muscular action; a sharp noise starts one; a brilliant flash of light causes the eye to shut; a pungent odor distorts the face, etc. And a muscular action can be sensed; for example, one knows by sensation when he moves a hand or foot, or any part of his body.

We are told that the size of motor areas depends more upon complexity of movement than upon the simple fact of muscular movement; hence, the more complicated the work done, the more brain power is developed.

All cells, whether muscle-cells, nerve-cells, or brain-cells, are developed by use. It is not the province of this discussion to state how this is done, but both muscular and sensory action increases the power for repeating those acts: we walk better by walking; talk better by talking; see better by seeing; hear better by hearing; and think better by thinking. The old aphorism, "Practice makes perfect," rests upon a scientific basis.

Muscular activity not only increases the size of the muscle-cells and nerve-cells connected with them, but it creates also activity in the motor centers of the brain controlling them, thus developing the brain-cells of these centers. Thus muscular development and brain-center development have a sort of mutually interdependent or reciprocal relation, each growing by the act of giving something of growth to the other; or, as stated in Manual Training Form No. 4, each by its activities "producing better conditions" in the other.

The brain center controlling the hand and arm is the largest of any except that of the face, thus making the hand capable of the most marvelous movements known to the animal kingdom, and the greatest motor contributor to the growth of the brain. The delicate movements of the hand, however, do more than develop the brain centers; they call into action all those qualities of mind needed in book study and in the higher realms of thought—perseverance, force of will, accuracy of sight and touch, exactness. They also develop many aesthetic qualities that are often hopelessly lacking in the education of the average child.

This statement needs no argument; no one disputes it. The moment a pupil attempts to make a certain thing, his attitude towards that thing changes. Suppose it is a cube. His eye searches the cube as never before; his hand explores it; time after time he "sets" his thumb and fingers, and measures the different faces; again and again the fingers "sense" the square angles and the perfect corners. He holds it at arm's length; he holds it close; he revolves it, holding it in all possible positions. Why? Because he is to create one. Could words or books ever give him such an interest, so concentrate his attention, so sharpen his observation? Could they ever give him such a correct concept of a cube? If manual training had no other value than to develop the power of attention and accuracy of observation, we hold that it would be worth all it costs, for in these two qualities of the mind rests its intellectual salvation. So with the project in the shop; the garment in the sewing room; the menu in the kitchen.

Unconsciously, too, the pupil assumes responsibility, and there is nothing that arouses every power of the mind more quickly than does a sense of responsibility.

Nature has provided a natural order of motor-center development. Those controlling the heavier physical activities develop first; the more

delicate follow; and those controlling the hand develop last. A few years ago the kindergarten overlooked this fact, and nearly brought about its own dissolution by attempting to teach babies to do fine finger-work.

There are motor ideas and conceptions that can be gained only through the hand; for example, correct concepts of smoothness, roundness, weight, thickness, etc. The gaining of correct concepts is one of the basic processes in the growth of intellectual power. It follows, then, that the hand stands as an important factor in sense training.

There are two kinds of muscular action—voluntary and reflex. Voluntary action calls for the mind's efforts; reflex action does not occupy the attention of the mind, but is carried on by the ganglia—small clusters of cells of gray matter, located along the spinal cord. As long as action is voluntary it is carried on by direction of the brain, and hence develops brain power; but when by repetition it becomes involuntary, that is, is carried on "without thinking," it becomes reflex and ceases in a great degree to develop brain power.

Take, for example, the child learning to walk. He is in a condition of intense brain activity. Nerve and muscle must be co-ordinated, and this requires all his powers of concentration; to take a step requires all his courage. Under this mental stimulus brain power is rapidly developed; but soon he walks without thinking—by reflex action—and then mental development greatly diminishes or entirely ceases. The nature of the child, however, drives him to other and more complicated muscular activities. He learns to run, to jump, to skip the rope, to play ball, and so on through the various pastimes of childhood, each in turn contributing both to the child's enjoyment and his brain development; each in turn ceasing to be educative just in proportion as the child becomes skillful in its execution.

This is true of all muscular action; it is educative to the degree in which it is difficult. Ease and facility in any particular movement are indications that reflex action has relieved the brain of its work, and that little if any mental power can be developed by it. The continued repetition may produce skill and may be valuable in the activities of life; in other words, the skillful act is largely economic; but the first efforts are largely educative.

Here, then, is the "parting of the ways" of industrial education for the arts and for art. As industrial value increases, educative value decreases; and furthermore, as a pupil gains facility in any work, he loses in mental energy for that work; he simply does not need mental energy.

Herein often lies a mistake regarding the value of high school and college athletics. So long as students are learning to acquire "form" in athletic feats, there is intellectual stimulus, but when "form" is acquired the mind is released from intense activity and something new must be attempted or the athletic feat becomes a matter of reflex action, and conduces to intellectual indolence. It thus often happens that the all-round athlete who ought to stand at the head of his class is found nearer the foot.

The true educator never forgets that faculty and facility are not synonymous terms. There are processes in which the pupil must acquire facility in order to gain time in the prosecution of higher school work,

and for the utilities of life. Reading, spelling, writing, mechanics of numbers; the uses of scientific apparatus, shop tools, kitchen utensils, and of art implements; all should be practiced until using them adds no burden to the mind in its higher investigations. But mere skill and facility may be an index of a sluggish, barren mind, and a standing advertisement of the cheapest sort of teaching. There is something besides drill work in true teaching. It is only by the constant introduction of new work that the brain is kept alert and growing.

All this is comprehended in the well-graded manual training school course. The pupil's progress at first is not to be measured by the excellence of his workmanship in articles produced, but by the scope of his work. He is not forced to acquire manual dexterity, but as soon as he has mastered the thought in any line of work he is introduced to another line, and his continued mental development thus secured.

MANUAL EXPRESSION.

Although there are various other views of manual training, we refer to but one,—manual expression.

Some one has said that the difference between people is not in the things they know, but in the way they know them. The only measure we have of another's intellect is by what he gives out. If he declares that he understands a great problem, we are not absolutely sure of it even when he explains it. His language does not convey to us his thought. He tries to describe to you some landscape, but his words fail. They cannot give the colors as he sees them in all their glorious tints. His "red," "gold" and "crimson" are not your red, gold and crimson. But his hand comes to the rescue; he seizes the brush, and the canvas speaks that of which the tongue was dumb.

A man has a great ideal. He says, "I will write it for the world and it shall be immortal." But the world has many tongues; he cannot learn them all, and if he could they are not all capable of the various shades of expression. Besides they change; tomorrow they will not mean what they do today. Then he says, "I will write it in granite and in an universal language." And under the warm spell of his enthusiasm he touches the shapeless, lifeless marble, and the embodiment of his idea stands forth, speaking a language known and read by the race.

A child gives you a definition of an object. Every word is right, and you believe he knows what the object is, but you are not sure of it. He may not understand the words he uses in defining it. But let him place before you a clay model made by himself, and you then know his concept of it.

"The hand stands pre-eminent in the sensuous development of man, and by it the world is revealed as in no other way." Indeed it has been called the projected brain.

Thus while manual training teaches no trade, it teaches the rudiments of all trades. The boy becomes familiar with the uses of the seven hand-tools—the ax, the saw, the plane, the hammer, the square, the chisel, and the file; the girl with the tools for the kitchen, laundry, sewing-room, and art studio—all the while getting a mental power not furnished in merely academic work, and at the same time a strong grasp on all work. And while its purpose is not to teach manual dexterity, it

lays the foundation of skillful handiwork by developing co-ordination of nerve-force—a necessity in the production of a well-balanced physical organism.

We said above that manual dexterity is not the *purpose* of manual training. Lest we be misunderstood, we wish to add that it should surely be one of the results. Manual dexterity is an outward manifestation of certain inward conditions. It indicates development of those centers which give co-ordination of will, brain and nerve. These are the fundamentals of certain phases of education. Of two people otherwise equal, the person possessing manual dexterity has the finer brain development.

Neither would we be understood as opposed to the "utility" idea in education. We believe the effort to ignore the economic value in education is subversive of the central idea in *public school* education. The state has not started out in the philanthropy business; it pours out its treasury to educate for the same reason that it builds and equips forts; raises and supports armies—self-preservation.

Good citizenship is what the state offers to buy at the bargain counter of the public schools. It wants an intelligent, moral, law-abiding, loyal citizenship. It can live and prosper if the masses of its citizens are not scholars. It can even feel safe if they are somewhat deficient in the first of these attributes—intellectuality; but it cannot long survive a lack in any of the other three. It is a fact that intellectual attainments only will not make law-abiding citizens. Carlisle speaks of the "one monster in the world—the idle man," and we believe the public schools of today have no more pressing duty resting upon them than that of fitting boys and girls to *do* as well as to *think*. Manual training comes into the field and offers to teach not only to do better thinking, but to *do something*. W. N. Hailman, superintendent of schools in Dayton, Ohio, says, "Indeed, the unanswerable arguments against the traditional school all rest upon the fact that it is out of harmony with the economic life of our time. * * * Its curriculum is limited to subjects which are, indeed, necessary in the scheme of general education, but which have no direct bearing upon the practical needs of life in our modern community of workers."

Of the more intricate psychological phases of manual training, we do not feel competent to speak, and doubt if their discussion belongs here. We believe, however, that it is impossible to conceive of a well-developed, well-balanced mind in an undeveloped body, and especially in the body where hand and arm are not educated to execute those intricate movements made possible by their peculiar physical construction.

THE OPINIONS OF EDUCATORS.

Disciplinary Effects.

"Nothing else has such power to soften, refine, and humanize rude girls and boys, to lead them to respect others, and to bring out those qualities which will lead them in turn to be respected. In the early spring of this year a class of boys was brought for the first time into one of our shops. They were from homes in one of the worst sections of the city of Boston, and for a lesson or two seemed almost ungovernable. But in less than three months these rude boys become so fascinated with their work that, compelled to be left largely to themselves one day on account of the illness of a teacher, they excited the admiration and comment of some educators who unexpectedly called because of their ceaseless attention to the work in hand. These few weeks had changed the wild boys of the street into those that were courteous and respectful and eager for advancement. Its value as a disciplinary, as well as an educational force, has not been over-estimated."—Pres. Capen, of the Boston School Committee.

Educational Value.

"There are those who doubt the educative value of manual training. Let any such person spend a few hours in a good manual training school, observing the boys at their work and questioning them about it, and if his doubts about the educative value of manual training do not vanish it will be because he measures educative value by standards not in common use. I should desire him particularly to converse with those boys in the machine shop, now drawing near the close of their course and busily at work on their projects for graduation day. Let him ask for explanations, question them closely for reasons, observe the quality of their work, note their own criticisms and estimates of it, and he must be an unreasonable man if he does not admit that somehow their school training has developed in them a high degree of intelligence."—E. P. Seaver.

Tributes to Skilled Labor.

"Until recently it was taken for granted that it took no great amount of brains to be a skilled mechanic, and that an education was largely wasted on one so long as he remained a mechanic. It was formerly assumed that a skilled worker in the materials of construction need not be a draftsman, nor a mathematician, nor a chemist, nor a physicist, nor a master of English. It is now known that every one of these things helps, not only to make one more respected and more influential as a citizen and a man, but to be a better and more successful mechanic.

"It is little less than a shame that we should graduate from these high schools pupils who are highly accomplished in language, composition and declamation, but are less keen in perception, with less of visual accuracy, less of manual dexterity, less of the executive faculty, than the children of the ordinary, ungraded district school."—Gen. Walker.

"We do not live by literature, but by labor. I bow to no one in my love of the beautiful in literature, but I detect greater beauty in greater use. There is to me more sentiment in a locomotive or a steamship than there is in the works of Shakespeare. George Stephenson is a grander figure in the progress of man than a score of the first statesmen of that time."—Charles H. Ham.

"It is high time that something be done to enable our youth to learn trades and to form industrious habits and a taste for work. It is not enough to instruct a boy in the branches of learning usually taught in our common schools, and leave him there—it takes more than a mere knowledge of books to make a useful member of society and a good citizen. The present product of our schools seems to be in too great a degree clerks, bookkeepers, salesmen, agents, office-seekers, and office-holders."—Supt. J. P. Wickersham.

"Let the child be taken to school whole instead of in parts; let him be considered as having a body as well as a mind; let him be trained physically toward use by a wise shaping of the eager animal activity; let him be protected from the cupidity of the manufacturer and the pressure of home poverty. If we are to protect the children of the very poor we must continue in some way to give them study and work together. Thus education has had its prophets if not its profits."—Miss Anna C. Garlin (now Mrs. Spencer).

We commenced this investigation with no positive convictions on the subject; we close it, firm believers in the manual training idea and in its general adoption by the leading cities of the country.

There are, however, some things regarding manual training that should be kept constantly in mind.

First—It is not for the purpose of teaching trades nor manual dexterity.

Second—That all mental activity develops brain power.

Third—That the active life of today demands as never before a practical education. There must be self-reliance, quick and accurate judgment, prompt and courageous execution.

Fourth—That the schools do not develop these qualities in any greater degree than they did twenty-five years ago; in other words, they have not kept pace with the increased demands upon them.

Fifth—That manual training claims only that it is a solution of the question as to how to meet these demands.

HENRY R. PATTENGILL.

BIOGRAPHICAL SKETCH.

In the year 1893 the annual report of this department contained biographical sketches of all the men who, up to that time, had executed the responsible duties of State Superintendent of Public Instruction; and we take great pleasure in now adding to the list a sketch of the man who issued that report.

Henry R. Pattengill, the son of a Baptist clergyman, was born January 4, 1851, in New Lisbon, N. Y. Receiving his common school education in Wilson Academy of that state, in 1874 he graduated from the Literary Course of our State University, being chosen class prophet and one of the commencement speakers.

For the next decade he was superintendent of schools at St. Louis and Ithaca, Mich., during eight years of that time being president of one of the strongest County Teachers' Associations in the state. He also came into contact with the teachers as township superintendent and county examiner, and within this period began the institute work which he has ever since continued so successfully.

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In the fall of 1892 Mr. Pattengill accepted the unsolicited nomination on the republican ticket for State Superintendent, and the following January entered upon the new duties for which his many years of school work had so well fitted him. Sixteenth in the line of able and progressive men who have from time to time been chosen to direct the educational affairs of our state, Mr. Pattengill's administration became in some sense a new educational era, his extended acquaintance with schools and school men, his high ideals and unbounded faith in what might be accomplished by progressive, up-to-date teachers, above all his untiring energy and contagious enthusiasm, uniting to make a success of every reform he inaugurated.

When a distinctively new bent was given to the examination questions sent out from the department in pursuance of his belief that these questions are a potent influence in determining the general trend of work in the common schools, and when those less wise than he sent up a loud and continued protest against the innovation, predicting a scarcity of teachers and many other dire results of the new regime, Mr. Pattengill's unswerving faith in his policy, and his cheery, sturdy manhood, enabled him to carry on the good work until one and all could see its beneficent results.

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HENRY R. PATTENGILL.

BIOGRAPHICAL SKETCH.

In the year 1893 the annual report of this department contained biographical sketches of all the men who, up to that time, had executed the responsible duties of State Superintendent of Public Instruction; and we take great pleasure in now adding to the list a sketch of the man who issued that report.

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requirements, he secured such legislation as should permit the issuance of but three third-grade certificates to any applicant, a second time he cheerily bore the oft-repeated censure of those who declared that this move would work extreme hardship to the rank and file of teachers. But again it only required time to show the wisdom of his policy, even the teachers finding that the strenuous efforts made to gain the higher grade certificates were more than repaid by the added reputation and the personal satisfaction gained, to say nothing of their immunity from the yearly "examination grind."

Thus since the days of "Father Pierce," perhaps no man has left a deeper impress on affairs educational than he whose genial wit and hearty sympathy have won him hosts of friends throughout the state, and made him welcome at every teachers' gathering within its bounds. Nor is his reputation limited to Michigan alone; for in the teachers' institutes of Illinois, Indiana, Ohio, and Pennsylvania, Mr. Pattengill is in increasing demand, while his well-known school journal and his more recent "*Timely Topics*," have introduced him to readers in every part of the Union. And Michigan may well inscribe the name of Henry R. Pattengill on the roll of her able, forceful, cosmopolitan educators.

FINANCIAL REPORT

OF

UNIVERSITY OF MICHIGAN

UNIVERSITY OF MICHIGAN.

THE TREASURER'S REPORT FOR THE FISCAL YEAR ENDING JUNE 30, 1900.

To the Finance Committee, Board of Regents, University of Michigan:

Gentlemen—Herewith I submit my annual report for the fiscal year ending June 30, 1900.

Respectfully,
H. SOULE, Treasurer.

Receipts.

From State Treasurer, on account ¼-mill tax for general expenses	$239,438 32	
From State Treasurer, accumulation of ¼-mill tax for special expenses	42,145 11	
From State Treasurer, special appropriations	12,000 00	
From State Treasurer, University interest	28,653 29	
Earnings and miscellaneous sources	232,775 48	
Balance overdrawn, June 30, 1900	611 70	
		$555,623 90

Disbursements.

Balance overdrawn, July 1, 1899	$18,764 53	
To special fund accounts, special appropriations	8,623 83	
To special fund accounts, accumulations of savings	38,759 22	
To general fund accounts, general expenses	489,476 32	
		$555,623 90

GENERAL FUND.

RECEIPTS TO THE GENERAL FUND.

From State Treasurer, account University interest	$28,653 29	
" From State Treasurer, account mill tax	239,438 32	
" Interest on deposits	1,015 85	
" University hospital earnings	20,952 37	
" Homœopathic hospital earnings	10,218 32	
" Dental operating room earnings	4,299 76	
" Engineering shop earnings	570 75	
" Miscellaneous sources	2,528 02	
		$307,676 68

From Students' Fees—			
Literary department		$52,065 00	
Summer school literary department		2,725 00	
Engineering department		12,350 00	
Medical department		22,765 00	
Law department		41,525 00	
Summer school law department		1,384 00	
Dental department		10,890 00	
Homœopathic medical college		2,945 00	
Pharmacy department		3,660 00	
Chemical laboratory		13,013 36	
Hygienic laboratory		2,955 00	
Botanical laboratory		566 00	
Zoological laboratory		802 00	
Physiological laboratory		57 00	
Pathological laboratory		1,630 00	
Histological laboratory		1,834 00	
Anatomical laboratory		2,290 00	
Mechanical laboratory		2,080 00	
Pharmacological laboratory		5 00	
Electrotherapeutical laboratory		872 00	
Dental laboratory		723 00	
Medical demonstrations		4,220 00	
Electrical engineering (physics)		529 00	
Key deposits		198 00	
Drawing boards		159 00	
Waterman gymnasium		2,648 00	
Women's gymnasium		508 00	
Diplomas		7,650 00	
			$193,048 36
Fees, total		$193,048 36	
Fees, refunded		7,698 05	
Fees, net		$185,350 31	
Balance overdrawn, June 30, 1900			9,574 53
			$510,299 57

DISBURSEMENTS FROM THE GENERAL FUND.

Balance overdrawn, July 1, 1899			$20,823 25
General pay roll	$156,553 75		
Summer school literary pay roll	4,975 00	$161,528 75	
Summer school current expenses		360 46	
Law department pay roll	34,312 02		
Summer school law pay roll	1,013 20	35,325 22	
Summer school law expenses		142 78	
Law library books		1,997 02	
Law department expenses		803 10	
Medical department pay roll	39,610 06	39,610 06	
Medical department expenses		516 33	
Medical department books		2,159 37	
Pharmacy department and chemical pay rolls	24,140 02	24,140 02	
Pharmacy department expenses		11,306 30	
Homœopathic college pay roll	5,500 00	5,500 00	
Homœopathic college expenses		407 50	
Homœopathic college books		127 39	
Dental college pay roll	12,667 47	12,667 47	
Dental college expenses		6,131 78	
Dental college books		80 98	
Engineering department pay roll	33,523 62	33,523 62	
Engineering department expenses		907 30	
University hospital pay roll	8,565 04	8,565 04	

Disbursements from the General Fund.—Continued.		
University hospital expenses		$18,876 48
Homœopathic hospital pay roll	$3,168 63	3,168 63
Homœopathic hospital expenses		10,012 54
Book bindery pay roll	640 10	640 10
Amount of salaries paid from the general fund.	$324,668 91	
Contingent account		5,979 39
Contingent account, real estate		14,000 00
Repairs account		10,063 86
Fuel account		15,565 70
Lights account		2,242 58
Books for general library		13,064 51
Current expenses for general library		989 51
Materia medica		380 51
Postage		2,264 56
Advertising and printing		1,456 01
Museum		1,029 47
Botanical laboratory		876 76
Botanical gardens		288 59
Histology		645 11
Hygiene		1,567 66
Zoology		909 37
Engineering shops		2,515 57
Civil engineering		208 86
School inspection		505 93
Observatory		293 32
Practical anatomy		2,231 66
Physics		780 47
Physiology		248 63
Surgical demonstrations		188 39
Surgical clinic		74 65
Pathology		510 97
Electrotherapeutics		464 92
Nervous diseases		139 06
Insurance		3,079 65
Waterman gymnasium		512 84
Barbour gymnasium		174 12
Students' fees refunded		7,698 05
Women's building		4,328 66
Teams		1,133 57
Carpenter shop		29 71
Philosophy		417 46
Geology		127 05
Electric supplies		674 32
Ophthalmology		34 24
News Letter		74 72
Latin		151 83
Music		200 00
New Homœopathic Hospital		105 91
Artesian well		5,009 40
Appointment committee		147 71
General catalogue		1,051 78
Heating supplies		615 78
Commencement expenses		886 74
Gynæcology		27 86
Theory and practice		235 62
Diseases of women and children		45
Dermatology		21 30
State pathologist		162 62
Mineralogy		10 00

Disbursements from the General Fund.—Concluded.		
Diplomas	$1,289 85	
Water supply	1,860 81	
New law building	537 50	
Alumni association	600 00	
Mathematics	275 23	
Philology	94	
English	16 34	
		$489,476 32
		$510,299 57

SPECIAL FUND ACCOUNTS.

HOMOEOPATHIC MEDICAL COLLEGE.

Receipts.		
Balance in treasury, July 1, 1899	$9 48	
From State Treasurer	6,000 00	
		$6,009 48
Disbursements.		
Vouchers paid, pay rolls	$5,500 00	
Vouchers paid, current expenses	123 83	
Balance in treasury, June 30, 1900	385 65	
		$6,009 48

ELECTRIC LIGHT PLANT.

Receipts.		
Earnings	$142 05	
Balance overdrawn, June 30, 1900	239 88	
		$381 93
Disbursements.		
Balance overdrawn, July 1, 1899	$381 93	$381 93

SUMMER HOSPITALS.

Receipts.		
From State Treasurer	$6,000 00	$6,000 00
Disbursements.		
Vouchers paid	$3,000 00	
Balance in treasury, June 30, 1900	3,000 00	
		$6,000 00

ACCUMULATION OF SAVINGS, LAW BUILDING.

Receipts.		
Balance in treasury, July 1, 1899	$498 39	$498 39
Disbursements.		
Vouchers paid	$485 88	
Balance in treasury, June 30, 1900	12 51	
		$498 39

ACCUMULATION OF SAVINGS, EXTENSION OF FOUNDRY.

Receipts.		
Balance in treasury, July 1, 1899	$42 55	$42 55
Disbursements.		
Vouchers paid	$42 55	$42 55

ACCUMULATION OF SAVINGS, REPAIRS ON UNIVERSITY HOSPITAL.

Receipts.		
Balance in treasury, July 1, 1899	$299 00	$299 00
Disbursements.		
Vouchers paid	$51 30	
Balance in treasury, June 30, 1900	247 70	
		$299 00

ACCUMULUTION OF SAVINGS, NEW SCIENCE BUILDING.

Receipts.		
Balance overdrawn, June 30, 1900	$500 00	$500 00
Disbursements.		
Vouchers paid	$500 00	$500 00

ACCUMULATION OF SAVINGS, ADDITION TO GENERAL LIBRARY.

Receipts.		
Balance in treasury, July 1, 1899	$988 73	
From State Treasurer	2,145 11	
		$3,133 84
Disbursements.		
Vouchers paid	$3,133 84	$3,133 84

ACCUMULATION OF SAVINGS, ADDITION TO HOMOEOPATHIC HOSPITAL.

Receipts.		
Balance in treasury, July 1, 1899	$551 36	$551 36
Disbursements.		
Balance in treasury, July 30, 1900	$551 36	$551 36

ACCUMULATION OF SAVINGS, ADDITION TO HEATING PLANT.

Receipts.		
Balance in treasury, July 1, 1899	$18 48	$18 48
Disbursements.		
Vouchers paid	$18 48	$18 48

ACCUMULATION OF SAVINGS, UNIVERSITY HOSPITAL LAUNDRY.

Receipts.		
Balance in treasury, July 1, 1899	$32 66	$32 66
Disbursements.		
Vouchers paid	$32 66	$32 66

ACCUMULATION OF SAVINGS, NEW HOMOEOPATHIC HOSPITAL.

Receipts.		
From State Treasurer	$40,000 00	$40,000 00
Disbursements.		
Vouchers paid	$34,494 51	
Balance in treasury, June 30, 1900	5,505 49	
		$40,000 00

SPECIAL FUNDS.

SUMMARY OF BALANCES, JUNE 30, 1900.

Overdrafts.

Electric light plant	$239 88	
New science building	500 00	
		$739 88

Balances in Treasury.

Homœopathic Medical College	$385 65	
New law building	12 51	
Addition to Homœopathic Hospital	551 36	
Repairs to University Hospital	247 70	
New Homœopathic Hospital	5,505 49	
Maintenance of summer hospitals	3,000 00	
	$9,702 71	
Net balance after deducting overdrafts		8,962 83
		$9,702 71

EXAMINATION QUESTIONS

FOR

STATE AND COUNTY CERTIFICATES

I. State Examination at Marquette, Mt. Pleasant, and Ypsilanti, August, 1900.

II. Regular County Examination, March, 1900.

III. Regular County Examination, June, 1900.

IV. Regular County Examination, August, 1900.

V. Regular County Examination, October, 1900.

*STATE EXAMINATIONS.

I. QUESTIONS PREPARED BY STATE BOARD OF EDUCATION FOR EXAMINATIONS HELD AT MARQUETTE, MT. PLEASANT AND YPSILANTI, AUGUST, 1900.

ALGEBRA.

1. What are indeterminate multipliers, linear equations, signs of relation, function of a term, and imaginary quantities?
2. Multiply $a-b$ by $c-d$ and deduce the rule that *like* signs give *plus* and *unlike* signs give *minus*.
3. In the equation $x^2+px+q=0$, show that the sum of the roots is $-p$ and the product of the roots q.
4. Resolve into four factors, $(x^2+y^2-z^2-u^2)^2-4(xy-zu)^2$.
5. (a) $x^3-x^2-8x+12=0$. Find values of x by factoring.
   (b) Simplify $\sqrt{x}+3\sqrt{\frac{1}{x}}+3(\frac{1}{8})^{-\frac{1}{3}}-(\frac{8}{27})^{\frac{1}{3}}$.
6. (a) Deduce formula for *sum* of geometric series.
   (b) Insert four harmonic means between $\frac{1}{4}$ and $\frac{1}{12}$.
7. Solve for all values of x and y. $\begin{cases} x^4+x^2y^2+y^4=273 \\ x^2-xy+y^2=9 \end{cases}$
8. At what time between 4 and 5 o'clock is the minute hand of a watch exactly five minutes ahead of the hour hand?
9. Find two values for x in following: $x^{\frac{1}{2}}+x^{-\frac{1}{2}}=\sqrt{6-x^{-1}}$.
10. $(3-2x^2)^5=$? Indicate method as well as result.

ARITHMETIC.

1. In what arithmetical processes is *drill* the essential element? In what operations is memory a factor?
2. When may the algebraic equation be used to advantage in arithmetic? Is it advisable to teach its transformations in eighth grade arithmetic?
3. How do you present the table of Surveyors' Long Measure so that *link* and *chain* stand for ideas in the mind of a child? Write the table.
4. Outline a first lesson on the subject of ratio.
5. What is the net amount of a bill of $360, discounts being 12½ % and 8 %? Find a single discount equivalent to these two successive discounts.
6. A sea-captain who owned ⅔ of a ship and cargo, gave to his wife ¼ of his share, to his daughter ½ of the amount his wife received, to his son ⅔ of the remainder, and equally divided what was still left between two nieces. What part of the whole had each niece? (a) Indicate solution of above in such a way as to show you have done *all* the thinking before performing any operations. (b) Solve the problem.
7. For how much must stock paying 5 % dividends be purchased to yield 8 % on the investment? What elements of percentage are given in this problem? What to be found?

* NOTE.—By resolution of State Board of Education passed in summer of 1900, the State examination work has been delegated to the President of the Normal School system.

8. How much above cost must a man mark goods so that he may take off 20 % of the marked price and still make 20 %?
9. Show that the formulæ, $s=\frac{n}{2}(a+l)$, and $s=\frac{rl-a}{r-1}$, are true.
10. How deep must a cylindrical cistern 4 ft. across be made in order to have the same capacity as a cubical cistern 4 ft. across?

BOTANY.

1. Write on the relation of light to plant growth.
2. What is mold? Explain its presence in preserves.
3. Name two parasitic plants injurious to cereal crops. Briefly describe one.
4. Write on three kinds of plant tissues.
5. (a) Discuss the two general forms of phyllotaxy.
   (b) Make drawings to show circinate and plicate vernation.
6. Describe five forms of corolla. Name one family in which you might find each.
7. Give the distinguishing characteristics of monocotyledonous plants.
8. Give botanical and common name of the first ten phanerogamous plants you would require pupils to analyze.
9. What are the chief characteristics of the Mint family?
10. Briefly discuss plant stems as to structure, position, and use.

CHEMISTRY.

1. Make a list of apparatus necessary for each pupil for one term's work in qualitative analysis. (Exclude general laboratory fittings.)
2. Give a method of distilling water for laboratory use.
3. (a) Describe an experiment which shows that air will burn in gas. (b) Why does the wire gauze cover of a safety lamp prevent ignition of gas outside?
4. Illustrate meaning of the following suffixes: *ic, ous, ate, ide.*
5. Give three nitrates of which HNO_3 is the basis. In what arts and industries are the nitrates of above acid used?
6. (a) Classify the following as acids, bases, or salts: lime, vinegar, cream of tartar, baking soda, ammonia.
   (b) What are the distinguishing characteristics of a *base?*
7. (a) What is meant by the combining weight of an element?
   (b) What is meant by water of crystallization?
8. Give history, occurrence, preparation, properties, compounds, and uses of phosphorus.
9. Name and give chemical formula for the products of coal oil in the order of distillation.
10. (a) Why is sodium kept under oil?
    (b) Describe the manufacture of sulphuric acid.

CIVIL GOVERNMENT.

1. (a) Mention some elements in our government which are *institutional* rather than *constitutional.* (b) Distinguish between *natural* and *civil* rights.
2. What are the fundamental differences on which the two leading political parties of all nations are based?
3. How may the constitution of the United States be amended? Is the President's approval necessary?
4. What is meant by the three-fifths compromise in the constitution of United States?
5. Speak of origin, necessity, jurisdiction, and officers of military and naval courts.
6. Why is the position of speaker of the house of representatives in congress so important? Who was speaker of the last house?
7. Give the four grades or classes into which our diplomatic agents are divided. With what nations have our diplomatic relations been disturbed during the past year?
8. Define and give example of the following: nation, belligerent, colony, province, and district.
9. Write on the school lands of the United States.
10. (a) What is meant by the term "trust," as used in commercial circles?
    (b) Give history and meaning of the word *caucus.*

GENERAL HISTORY.

1. What has each of the following conquests contributed to the civilization of the world: Greek, Roman, Mohammedan, Norman?
2. State an important fact in the life of each of the following: Aristides, Leonidas, Themistocles, Catiline, Pompey.
3. (a) Speak of the relations of France and England previous to 1066.
   (b) Name two important conflicts between these powers since 1500.
4. When and by whom was Magna Charta granted? State one of its provisions that has become a part of our common law.
5. Give date and significance of the following battlefields: Arbela, Tours, Munda, Culloden, Moscow.
6. Make two statements of historic interest about each of the following: Garibaldi, Thiers, Disraeli, Bismarck.
7. What causes led to the Home Rule discussions in the British Parliament?
8. Name five contemporaries of Napoleon, and state the outcome of each man's work.
9. Mention a statesman from each of the five leading powers of the world and tell why you regard him as a statesman.
10. Give a synopsis of the history of Russia for the last thirty years.

GEOGRAPHY.

1. Speak of geography as a *culture* study.
2. Give in detail the use you make of any two of the following aids or devices in teaching geography: newspapers, magazines, books of travel, railway guides, pictures, solar cameras, graphic presentation of statistics, stencils, and permanent outline maps.
3. Distinguish between local and standard time.
4. Describe the continental watershed of Africa.
5. Illustrate the advantages of a broken coast line by comparing two countries unlike in this respect.
6. Locate three artificial waterways of North America and show their importance. Name some proposed artificial routes.
7. Name the chief commercial city of Scotland, Belgium, Austria, Spain, and Canada. Speak of advantages of the location of each.
8. (a) Compare the size of Alaska with the remainder of the United States. (b) Locate Cape Nome, Circle City, Juneau, and Dawson.
9. Make an outline map of the West Indies, drawing Cuba three inches in length and the other important islands in proportion, and locating thereon Havana, Kingston, Santiago, Mona Passage, and Windward Passage.
10. Name the states on the east bank of the Mississippi river, and give two sources of material wealth found in each.

GEOLOGY.

1. (a) What is the geographical location of the oldest rock formation of North America?
   (b) Give origin of basaltic rocks and describe some basaltic scenery of America.
2. Which has the wider geographical distribution, the primitive species of animals or the more recent? Why?
3. Give theory for the salt deposits in Michigan.
4. (a) State points of resemblance and difference between any two forms of carbon.
   (b) How is rock crystal distinguished from calcite?
5. What are favorable conditions for a river to form a deep and narrow gorge? To form a wide, open valley? Give an example of each.
6. (a) Draw a section showing the following structures: anticlinal, escarpment, fault, and outlier. (b) How is the *dip* of a rock formation indicated on a geological map?
7. What are the characteristic fossils of the Silurian system? Of the Devonian? Of the Carboniferous?

8. Distinguish between lime and silica as to formation, character of soil produced by disintegration, susceptibility to atmospheric influence, and combination with other elements.
9. Define ore, drift, moraine, fissile rock, and shale.
10. Of a handful of pebbles gathered from the roadside, what could you name at sight? What tests would you apply to determine any of them?

GEOMETRY.

1. (a) In what grades below the high school may constructive geometry be taught and what benefits are to be derived from the work? (b) What proportion of high school work should be given to original demonstrations?
2. (a) What are congruent figures? Symmetrical figures?
   (b) Let a transversal intersect two parallel lines. Figure and name the angles formed and indicate those which are supplementary.
3. State three theorems whose proof is dependent upon the following fact: A tangent to a circle is perpendicular to the radius at the point of tangency.
4. Demonstrate: If three circles intersect one another the common chords all pass through the same point.
5. Demonstrate: The rectangle formed by any two sides of a triangle is equivalent to the rectangle formed by the altitude upon the third side and the diameter of the circumscribing circle.
6. Construct a square equvalent to ⅔ of a given hexagon.
7. Inscribe a regular pentagon in a circle and give proof for construction.
8. Demonstrate: A line and its projection on a plane determine a second plane perpendicular to the first.
9. (a) Represent by drawing, a truncated cone, a frustum of a pyramid, a dihedral angle, a lune, and a spherical segment.
   (b) What is meant by the spherical excess of the triangle?
10. A sphere 8 inches in diameter, has a hole 3 inches in diameter bored through its center. What is the volume of the remainder?

GRAMMAR.

1. Illustrate the following, from both the Anglo-Saxon and Latin elements in our language: a simple word, a derivative, a compound.
2. (a) What methods do you employ to enforce use of correct tense forms of such verbs as *see* and *go*? (b) Of correct case forms of the pronouns?
3. Speak of language work and formal grammar as to place in the grades, proportion of time to be spent on each, and relative value in the every-day speech of pupils.
4. (a) Write a sentence using the interrogative *who* in the objective case. (b) Write a sentence in which *who* is used as a relative with antecedent not expressed.
5. Illustrate difference between an attribute complement and an objective complement.
6. Classify connectives as to use and as to nature, that is, parts of speech so used.
7. Illustrate dative object and factitive object.
8. Diagram or analyze the following sentence:

> "What matter, I or they?
> Mine or another's day,
> So the right word be said
> And life the sweeter made?"—Whittier.

9. Classify the clauses in the following:

> "Everything came to him marked by Nature, *Right side up with care*, and he kept it so.
>
> The world to him, as to all of us, was like a medal, on the obverse of which is stamped the image of Joy, and on the reverse, that of Care. S——— never took the foolish pains to look at that other side, even if he knew of its existence."—Lowell.

10. (a) Give construction of verbals in above.
    (b) Classify the adjectives in the above.

AMERICAN HISTORY.

1. How are the following names associated with the expansion policy of the United States: Thomas Jefferson, Thomas H. Benton, John C. Fremont, Wm. H. Seward, and Theodore Roosevelt?
2. What life of Washington have you read? Comment on historical value, literary merits, and author of the work.
3. Mention some facts of English history which should be studied in connection with the settlement of Massachusetts, Georgia, Maryland, and New York.
4. (a) Name five men prominently connected with some plan for government finance of the United States. (b) What caused the financial panics of 1837, 1857, 1873, and 1893?
5. What agreement exists between Great Britain and the United States in regard to the naval force on the Great Lakes?
6. During the war of the rebellion, why did the government and aristocracy of England favor the South, and the common people favor the North?
7. Outline the work of Admiral Farragut during the Civil War.
8. What diplomatic service have the following men rendered the United States: Daniel Webster, Anson Burlingame, Commodore Perry, and Richard Olney?
9. (a) What were the remote causes of the Cuban War? (b) Connect each of the following names with a prominent event of the war: Gen. Gomez, Fitz-Hugh Lee, Cervera, Gen. Schley, and Captain Sigsbee.
10. Give a brief account of the Boxers.

LITERATURE.

(Answer any ten of the following questions.)

1. How did the introduction of Christianity affect the spirit and the poetic power of early English literature?
2. Explain Chaucer's relation to the standard of literary English.
3. Discuss the Elizabethan Age as to (a) characteristics of the age; (b) its connection with the previous age.
4. Give, in outline, the various steps in the development of the drama. Show that the drama of Shakespeare was a natural product of his time.
5. What were the changes in form and subject matter made in English poetry by the writers of the Romantic period?
6. Give a brief account of the expression of the Revolutionary spirit in English literature in the nineteenth century.
7. Compare the style of any two great prose writers of English literature.
8. (a) Why must any sound study of literature go hand in hand with the study of history?
   (b) What is the characteristic of the earliest development in America? Why?
9. Name three writers, poet, essayist, and novelist, whose writings first gave American literature a reputation in Europe. Discuss their merits.
10. Cooper's "Last of the Mohicans," and Lowell's "Vision of Sir Launfal," are selected for general reading in "College Requirements in English," 1901-1905. Why these particular selections? Explain somewhat fully.
11. Discuss briefly methods in teaching literature, (a) in reference to purpose or aim, (b) as to value of literary criticism, or comment on part of others, in comparison with study of the authors' works themselves.
12. Give an example of the influence of literature (poetry, fiction, or the oration), upon the development of the American people.
13. Give, in brief outline, your method of teaching Macbeth, the collateral reading you would suggest and object in view in teaching this particular play.
14. Who are the great masters in English poetry? In what poetic *form* did each express his thoughts and feelings?

ORTHOGRAPHY.

1. Speak of the value of spelling contests in the grades.
2. Write the present participle of the following: bet, bite, buy, die, flee, omit, practice.
3. Write the plurals of the following: appendix, antipathy, chaos, debris, contralto.

4. Anaylze the following words: composition, contradict, innumerable, subordinate, predominate.
5. (a) Distinguish between homonyms and synonyms. (b) Indicate pronunciation of following: assuage, arbutus, acclimate, cerebrum, finance, homœopathic, panegyric, placers, refutation, suffice.

PENMANSHIP.

1. "Greatness is a spiritual condition worthy to excite love, interest, and admiration; and the outward proof of possessing greatness is, that we excite love, interest, and admiration."
   Write the sentence above, three times, and note your average number of words per minute.
2. Discuss the relative merits of the vertical and slant systems of penmanship.

PHYSICS.

1. A force of 800 dynes acts on a mass for one second and gives it a velocity of 15 cm. per second. What is the weight of the mass in kilograms?
2. At 0° C. the volume of a certain mass of oxygen is 2100 cu. in. What will be its volume at 15° C.?
   What is absolute zero?
3. What is the value of gravity at a place where a pendulum 75 cm. long makes 70 vibrations per minute?
4. An upright cylinder has a base of 20 sq. cm. and is 25 cm. high. Calculate base and lateral pressure when filled with water.
5. (a) What is meant by *apparent* weight?
   (b) A solid weighs 120 grams in air, 90 grams in water, and 78 grams in a solution of zinc sulphate. What is the density of the solution?
6. Illustrate, by drawing, the index of refraction for light passing from air to water.
7. A battery of six cells, each having an E. M. F. of 1.2 volts, and an internal resistance of 3.5 ohms, has an external resistance of 10 ohms. Calculate the amperage when the cells are connected in *series*, and, also, in *parallel*.
8. (a) What is radiant matter? How are its properties determined? (b) What is spherical aberration? How overcome?
9. (a) Compare the caloric and kinetic theories of heat. (b) Why are gases poor conductors?
10. Deduce the laws for pendulums and the formula for water escaping from an orifice, from the laws for falling bodies.

PHYSIOLOGY.

1. Speak of muscles and tendons as to structure and use.
2. Name and give functions of the glands of the head.
3. Give structure and care of the teeth.
4. How is the temperature of the body maintained by food and pure air?
5. Name the digestive juices and classify them as acid or alkaline.
6. In what parts of the body is cartilage found? What is its use?
7. Define the following: fibrin, lacteals, pleura, peptones, and portal vein.
8. Make a drawing to show structure of the eye.
9. Give the effect of alcoholic stimulants upon the capillaries, and the special senses.
10. What are the physical conditions necessary to success in study?

RHETORIC AND ENGLISH COMPOSITION.

1. Give a brief account, in narrative form, of your preparation in rhetoric and English composition. Include (a) the school, or schools, you attended, (b) the time spent upon the subject, (c) the books studied, (d) the approximate number, and the character of the essays written.
2. Name (a) four books which you regard as the highest authorities upon questions of rhetorical theory, and (b) one book or important article upon methods of teaching English composition.

3. (a) What is the prevailing fault of the following composition? (b) What are its good qualities? (c) Copy and put in the margin such corrections as you would make if the composition were written by one of your pupils. (d) What advice or caution would you give to the writer in conferring with him in regard to his composition work?

JOAN OF ARC.

In some ways the conduct of Joan of Arc can be accounted for. One of these things was her religious character and devotion. When, probably in her imagination, she heard voices telling her to save her country, she obeyed, for she was naturally an obedient child.

She was very tender-hearted as a child, and this leads one to think that she would not go to war where suffering and blood-shed would be seen on every side. She was obedient, too, and her father once said that he would rather see her drown than join the army.

For these reasons one would hardly think Joan could become a warrior, but she did, and led the French soldiers to victory, and when she was finally captured by the English and was being burned in the market-place at Rouen, the spectators affirmed they saw her soul, in the form of a white dove, go up to Heaven.

But at the time of her death the French had become so victorious that they won in the great struggle which had been carried on between England and France for over a century.

4. State the substance of the following paragraph in one sentence of your own composing:

Simplicity has always attracted children. It was no gorgeous description that attracted them to the household tales of the Brothers Grimm, and afterward to Andersen's legends. It is the simplicity of the tales that charms them; they feel that they are the real thing, and they instinctively know that there is nothing stagey or affected about them. They are intelligible and easy of comprehension by the child-mind. The stories enter on no wild flights of romance, but run easily and smoothly along every-day paths of life, so that it requires no great imagination to follow them. They are the tales of the common folk, handed down from a period long before the dawn of history, easily understood by man and child alike. Moreover, they are not extravagant or out of proportion, and this is a point that children appreciate, for they have a larger sense of proportion than "children's writers" suppose.

5. What figures of speech do you think it is necessary for pupils to study? What is the object in studying them? What is the most effective way of teaching figures?
6. What are the essentials of good description? Of good narrative?

SCHOOL LAW.

1. For what reasons may a teacher's certificate be annulled? May teachers' examinations be held in any other place than the county seat?
2. Enumerate five duties of the county commissioner.
3. What legal provisions for free text-books in Michigan?
4. Show the relation of the Michigan State Board of Health to the public schools.
5. What township officer is clerk of the board of school inspectors? How is the treasurer of this board chosen?
6. What changes have been made recently in the Normal School System of this state?
7. How may students from the district schools prepare for the Agricultural College?
8. What children are entitled to instruction in Day Schools for the Deaf? How much state money is appropriated annually for instruction of each pupil?
9. Enumerate the certificates which may be obtained by examination in Michigan. How obtained upon diploma?
10. What time of the year must the financial report of graded schools be made?

THEORY AND ART OF TEACHING.

1. Name four or five of the best books on education that have been published in the United States within the past three years.
2. What is meant by the educational value of a subject? What do you consider the distinctive educational value of (a) mathematics, (b) the classics, and (c) the physical sciences?
3. Explain fully what is meant by interest. In what relation does interest stand to attention? State the main laws of attention.
4. Discuss the following statement: "A teacher must not expect a child to be interested in that of which he is wholly ignorant." How does this bear on the method of teaching?
5. "In each branch of instruction the teacher ought to proceed from the empirical to the rational." Discuss and illustrate this statement.
6. What is to be understood by habit (a) in a mental and (b) in a physiological sense?
7. What place should manual training have in a course of study for schools below the high school grade? Discuss briefly the educational value of manual training.
8. Discuss the attempts that have been made during the past few years to improve the course of study for the elementary schools. What is your opinion of the movement in favor of introducing algebra, geometry, and one or more foreign languages into the last year of the grammar school?
9. "Every idea has a motor element in it." Discuss the bearing of this psychological truth upon the work of teaching. What bearing has it upon the formation of character?
10. In preparing a course of study for the elementary schools, what provision would you make for Nature Study?

ZOOLOGY.

1. What is the purpose of zoological study in the public schools?
2. Name a number of animal forms that you know to be available and suitable for class-work in the study of zoology.
3. Give an illustration of the main sub-orders into which the Insecta are divided.
4. What is the nature of the trichina parasite as found in infected meats? Explain its development when taken into the human system.
5. Name five rodents found in this State.
6. Classify the opossum, the oyster, the toad, the caterpillar, and the beetle.
7. Mention the distinguishing characteristics of the ruminants.
8. Trace the metamorphosis of the mosquito.
9. Describe the class Aves and show adaptability of structure to habit.
10. Write on the evolution of the hand.

COUNTY EXAMINATIONS.

II. QUESTIONS PREPARED BY THE SUPERINTENDENT OF PUBLIC INSTRUCTION FOR THE REGULAR EXAMINATION, MARCH, 1900.

(Examination Form No. 2.)

RULES GOVERNING EXAMINATIONS.

[Note to examiners and applicants—Read No. 11 carefully.]

1. The package containing the questions shall be opened by the commissioner and he shall direct their distribution.

2. The questions upon a given subject shall be distributed at the same time to all applicants and no recess be allowed until the subject is finished.

3. Applicants, when absent at its opening, shall not be admitted to the examination except by the unanimous consent of the board of examiners.

4. No candidate shall leave the room or communicate with any other candidate or any visitor during the examination, except by permission of the commissioner.

5. All papers must be written on legal cap paper, unless the commissioner prescribes or permits some other size.

6. The commissioner shall be the custodian of the completed examination papers, and they *shall be kept on file at his office at least six months* after the examination.

7. In arithmetic a knowledge of principles and general accuracy in method, shall be considered not less than three times as important as obtaining a correct answer.

8. In grammar allowances shall be made for different authorities.

9. A candidate's handwriting shall be judged from the answers to the questions in penmanship.

10. Applicants for third grade certificates shall be examined in writing, orthography, reading, grammar, arithmetic, geography, United States history, civil government, theory and art of teaching, school law, physiology and hygiene, with special reference to the effect upon the human system of alcoholic drinks, stimulants, and narcotics. Applicants for second grade certificates shall, in addition to the third grade branches, be required to write on two additional ones, which they may select from the lists furnished in general history, botany, physics and algebra. Applicants for first grade certificates shall, in addition to third grade branches, be required to pass an examination in general history, botany, physics, algebra and geometry.

11. Third grade certificates of class B are valid in ALL districts of the county in which they are granted. Third grade certificates of class A should be issued ONLY to those who teach in primary departments (first four grades) of graded schools. Holding a certificate of class A does not legally qualify a teacher for any other school. Boards of examiners must not grant certificates of class B to applicants who have done only the work required for a certificate of class A. Each printed list is plainly marked and no mistake should be made. (See Sec. 6, Act No. 147, Public Acts of 1893; also compiler's Section 131, School Law of 1897.)

12. Follow carefully the program given below, and do not vary to accommodate candidates who are tardy or who do not appear until the second half day.

FIRST DAY.	SECOND DAY.
a. m.	a. m.
Orthography.	Reading.
Penmanship.	Civil Government.
Geography.	Grammar.
General History.	Physiology.
p. m.	p. m.
Arithmetic (oral and written).	Algebra.
U. S. History.	Botany.
School Law.	Physics (second grade).
Theory and Art.	

Third Day (for first grade applicants only), Physics and Geometry.

JASON E. HAMMOND,

Superintendent of Public Instruction.

ALGEBRA.

FIRST GRADE.

1. Simplify: $\dfrac{x+\dfrac{y-x}{1+xy}}{1-\dfrac{xy-x^2}{1+xy}}$

2. If $\frac{a}{b}=\frac{c}{d}$, show that $\dfrac{a^2+b^2}{a^2-b^2}=\dfrac{c^2+d^2}{c^2-d^2}$.

3. (a) Factor the following, giving the steps and principles: $85+12y-y^2$; $x^3y-x^2z-xy^2+xyz$.
   (b) Find L. C. M. of $a^3-8a^2+19a-12$; $a^3-9a^2+26a-24$; $a^3-6a^2+11a-6$.

4. (a) Define and give the most general form of a pure quadratic equation.
   (b) Of an affected quadratic equation.

5. Three times in succession a man spent ½ of his money and \$½ more, when he found he had \$2 remaining. How much had he at first. (Solve by direct statement.)

6. Give a general discussion of the Binominal Theorem to the fourth power inclusive.

7. Discuss the successive powers of $\sqrt{-1}$, and show that $(\sqrt{-1})^{4n+2}=-1$.

8. Solve the following: $\dfrac{\sqrt{4x+3}+2\sqrt{x-1}}{\sqrt{4x+3}-2\sqrt{x-1}}=5$.

9. The product of four numbers in arithmetical progression is 280, and the sum of their squares is 166. What are the numbers?

10. Find two numbers whose sum, product, and difference of their squares are all equal.

SECOND GRADE.

1. Expand $(a-2b)^4$.

2. $\dfrac{a+2b}{a-2b}-\dfrac{a-2b}{a+2b}=?$ $\dfrac{a+b}{a^3-a^2b}\times\dfrac{ab-b^2}{ab+a^2}=?$

3. Find x, y, and z in the following:
$$\begin{cases}(x+y=17)\\(y+z=24)\\(x+z=19)\end{cases}$$

4. Factor the following: $x^2+9x+20$; $27x^3+1$; $64x^6-y^6$.

5. Divide 100 into two such parts that twice one part equals three times the other.

6. A is 25 years older than B, and A's age is as much above 20 as B's is below 85. Find their ages.

7. Find the square root of $4x^4-8x^3+4x+1$.

8. The plate of a mirror is 18 inches by 12; its frame contains the same area as the glass. What is the width of the frame?

9. A can build a wall in eight days, which he and B can build in five days. How long will it take B to build the wall?
10. The sum of the tens and units' digits is 15, and the number divided by the difference of its digits equals 32. What is the number?

ARITHMETIC.

FIRST AND SECOND GRADES.

1. Make a 6 mos. note without grace, drawing legal interest, which, discounted after one month at 1% a mo., will yield $11,742.
2. Find the number of yards required to carpet a room, both crosswise and lengthwise, with carpeting ¾ yd. wide that loses 9 in. in matching. Illustrate solution as to a class.
3. I sold two farms at the same price, thereby gaining $100. If I gained 50% on one and lost 20% on the other, what did each cost?
4. (a) Which is the best investment: 5's at 75, 6's at 85, or 7's at 90?
   (b) What does a man pay for 5% bonds to realize 6½% on the investment?
5. Explain, as to a class, a method of finding the area of a circle whose diameter is given.

THIRD GRADE, CLASS B.

1. (a) Explain the use of the hyphen, comma, and period, in writing numbers.
   (b) Explain the use of the word *and* in reading numbers.
2. $\frac{12\frac{1}{2}+8\frac{1}{2}\times 5\frac{1}{2}-2}{3\frac{1}{2}\times 6-\frac{1}{2}\times\frac{1}{2}}=?$
3. A house-painter works 10 hrs. a day, receiving $3.75, with double pay for extra time. If his pay amounts to $25 a week, how much extra time does he work?
4. Formulate and solve by cancellation an example in intesest involving months and days.
5. Illustrate, as to a class, that a person always loses more money than he gains in selling two articles at the same price each, upon one of which he gains a certain per cent, while upon the other he loses the same per cent.

CLASS A.

1. (a) Explain the use of the hyphen, comma, and period, in writing numbers.
   (b) Explain the use of the word *and* in reading numbers.
2. $\frac{12\frac{1}{2}+8\frac{1}{2}\times 5\frac{1}{2}-2}{3\frac{1}{2}\times 6-\frac{1}{2}\times\frac{1}{2}}=?$
3. *(a) Outline a number lesson for second or third grade.
   *(b) In what grade should the fundamental processes be taught?
4. Show by some figure how you can illustrate to a class that ⅓ taken from ½ leaves ⅙.
5. Demonstrate the "principles of fractions."

MENTAL ARITHMETIC.

NOTE—A member of the Examining Board will examine candidates in classes of twenty-five or less, testing quickness to grasp the salient features of a problem, accuracy and rapidity of work, clearness and simplicity of analysis. In the right hand margin applicants will write *as many answers to the first twenty questions as possible in fifteen minutes;* one-half per cent for each answer and one per cent additional for each *correct* one, is given in this part of the examination.

1. Add 25, 39, 48, 67, 99.
2. From 12½ take 9⅞.
3. *Multiply 18⅔ by 6½.
4. *Multiply 126 by 66⅔.
5. *Divide 1,800 by 75.
6. *Divide 2,700 by 37½.
7. *Multiply 12 by 34⅓.

8. *Multiply 75 by 65⅔.
9. *Divide 100 by ⅔.
10. ⅔ A's money is ¾ of B's, and B has $6 less than A. How much has A?
11. What cost 5 doz. cans of oysters at 3 cans for 50c?
12. Bought a gross of pencils at 50c, and sold them at 3 for 2c. What profit did I make?
13. Paid $4.50 for two reams of paper and sold it at 20c a quire. What was gained?
14. A cuts 3 cords of wood in a day, B in ⅞ of a day. How much can they together cut in 2 days?
15. How many cords of wood in a pile 18 ft. long, 6 ft. high at one end and 2 ft. at the other?
16. How many feet of lumber in a timber 6x8 and 30 ft. long?
17. *What is the bank discount of $240 for 93 days at 6%?
18. If a ball 2 in. in diameter weights 2 lbs., what will one of the same material 6 in. in diameter weigh?
19. What cost 30 spoons at $3.50 a dozen?
20. Bought books at the following prices: $1.75, $3.50, $2.25, $1.25, $2.50, 75c, 35c, 15c and 65c. The bookseller was paid with a 20-dollar bill. Make the change.

N. B.—Second and third grade applicants may write *full analysis* of four problems selected by the examiner from the next six. First grade applicants write the last four.

21. ⅜ of $12 is $\frac{5}{11}$ of my money. How much have I?
22. A and B buy a horse, A paying $35 and B $25. They pay in the same ratio, $6 for its keeping, and sell at $66. How much profit did each person make?
23. A lost ¼ his money, spent ¼ the remainder for a coat and ⅓ of what then remained for ¾ doz. fountain pens at $12 a dozen. How much had he at first?
24. A pipe fills a cistern in 3 hrs.; a second pipe empties it in 2 hrs. If the cistern is half full and both pipes are open, how long will it take to empty the cistern?
25. What time is it when ⅔ the time past noon equals ⅝ of the time to noon again?
26. What per cent of 1¼ bu. is 2½ quarts?
27. A can make 15 railroad ties in a day or can deliver 30. How many can he make and deliver in a day?
28. Henry and James have the same sum of money given to them. Henry adds annually 10% to his total capital, and James squanders annually 10% of his. At the end of two years Henry has $400 more than James. How much was given to each?
29. A teacher was hired on the following conditions: If he had 20 pupils he was to receive $20 a month; if but 12 pupils he was to receive $15. He had 17 pupils. What should he receive?
30. A can lift 450 lbs. and B 600 lbs. Where should a weight be placed on a spike 3½ ft. long so that each shall lift according to his strength?

BOTANY.

FIRST GRADE.

1. What is venation?
2. Discuss the different methods of pollination.
3. What fact seems to indicate that nature does not favor self-fertilization?
4. Describe the three classes into which herbs are by character divided.
5. Give botanical description of the violet family.
6. What name is applied to the flower clusters of the following: milkweed, plantain, lily-of-the-valley?
7. What part of the flower is eaten in case of the following fruits: pear, peach, grape, raspberry, strawberry?
8. Are plants with highly colored leaves deficient in chlorophyll? Explain.
9. (a) Name the parts of the seed. (b) What agencies are employed for seed distribution?
10. What are some of the suggestions made by the Committee of Twelve regarding plant study in rural schools?

(If you have not seen this report, give some devices for teaching pupils to observe plant growth.)

SECOND GRADE.

1. Define class, order, genus, species.
2. Make a drawing to show difference between a pinnate and a palmate leaf.
3. Describe the five parts of a complete flower.
4. (a) What is a bud? (b) Name the different kinds.
5. Describe the two great classes of stems.
6. In what part of the plant is the crude sap assimilated, and under what conditions?
7. Define and give example of a stolon?
8. What effect has a forest on the surrounding country? Why?
9. Define the following terms as applied to flowers: staminate, polygamous, neutral.
10. *What equipment should each member of a botany class possess?

CIVIL GOVERNMENT.

FIRST AND SECOND GRADES.

1. General excellence, including neatness, will count for this number.
2. Briefly give the origin of the town and township.
3. State the defects of the colonial government.
4. Give your opinion, with reasons, on the advisability of having several political parties.
5. Define money and mention some of the substitutes for the same used in the United States.
6. (a) Who is the most important member of the Cabinet? (b) What are his powers?
7. What is the duty of the state central committee?
8. Explain what you understand by pre-emption.
9. Give the names of those whose seats in Congress have recently been contested, stating reasons for the action.
10. Show the relation between the federal and state governments.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. Give the rights of a territorial delegate in Congress.
3. (a) State the purpose of taxation.
   (b) What occurs if the taxes on property are not paid?
4. What is the object of referring bills to the various committees of the House and Senate?
5. Name the classes of inventions protected by patents, telling for what length of time granted, and where to apply for the same.
6. *(a) What three things should be emphasized in teaching civics?
   (b) What is your method of instilling ideas of good citizenship in pupils?
7. What is the source of funds for the support of schools?
8. (a) For what length of time are United States senators elected?
   (b) To how many votes is each senator entitled, and when does Michigan next elect a senator?
9. To what offices are naturalized electors ineligible?
10. What determines the legal residence of an elector who owns land in several states?

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Give the rights of a territorial delegate in Congress.
3. (a) State the purpose of taxation.
   (b) What occurs if the taxes on property are not paid?
4. What is the object of referring bills to the various committees of the House and Senate?
5. What provision is made against the arbitrary use of the veto power in the United States?

6. *(a) What three things should be emphasized in teaching civics?
   (b) What is your method of instilling ideas of good citizenship in pupils?
7. Give the source of funds for the support of schools.
8. (a) For what length of time are United States senators elected?
   (b) To how many votes is each senator entitled, and when does Michigan next elect a senator?
9. Why cannot a person holding an office of trust under the United States accept gifts or titles from foreign states without consent of Congress?
10. What determines the legal residence of an elector who owns land in several states?

GENERAL HISTORY.

FIRST GRADE.

1. Speak briefly of the Aryan dispersion.
2. Show that the discovery of America by the Northmen does not detract from the honor due to Columbus.
3. *Name five decisive battles in Grecian history.
4. (a) How did the geographical position of Rome aid in her success?
   (b) Briefly give reasons for her downfall.
5. Tell who advocated the "blood and iron" policy, and state the result of his work.
6. What commercial effect had the revocation of the Edict of Nantes?
7. Give brief description of the Russian government.
8. Give the political organization of Austro-Hungary, and tell what features of its make-up threaten her government.
9. What has been the influence of the Suez canal on commerce?
10. Upon what does the solution of the Eastern Question depend and why do not Christian races settle it?

SECOND GRADE.

1. Tell what work was accomplished by Miltiades, and state its effect upon his country.
2. Briefly describe Ireland during the reign of Elizabeth.
3. *Name five decisive battles in Grecian history.
4. Briefly state the result and effect of the battle of Waterloo, naming the leading general.
5. (a) What was the bone of contention between Austria and Germany in 1866?
   (b) Give the result and effect of this trouble.
6. For what purpose was the triple alliance formed and what nations compose it?
7. Name the leaders of the Italian struggle for freedom, and state the result of their efforts.
8. (a) In what war is England engaged?
   (b) Briefly give the cause of the war.
9. Mention some supplementary reading which you would recommend to a history class.
10. When was the present form of government in France organized, and who is president today?

GEOGRAPHY.

FIRST AND SECOND GRADES.

1. General excellence, including neatness, will count for this number.
2. Why is a sinking coast likely to be irregular?
3. Explain the formation of artesian wells.
4. (a) Why is the climate of highlands colder than that of lowlands?
   (b) Upon what does climate depend?
5. Mention some books and their authors that are helpful in the study of Europe.
6. Briefly describe one of our new possessions, including comparative size, climate, vegetation, and education.
7. State the advantages and objections, if any, to the Hay-Pauncefote treaty.
8. Give reasons why manufacturing interests are comparatively unimportant in Italy.

9. Contrast the civilization of Russia with that of the United States, England, or Prussia, giving reasons for the difference.
10. State in full the effect upon New England, had it been settled by Spaniards instead of English.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. Define erosion and state its effect.
3. What is the shortest route from New York to Yokohama?
   (a) Name the aids to commerce.
   (b) What officials do commercial nations appoint for service in the large seaports?
5. Locate the largest seaports of our country and account for the location.
6. *Name the agents that produce physical changes.
7. In what bodies of water is most transportation carried on? Why?
8. Why do we find few railroads in South America?
9. What causes have contributed to make England a maritime nation?
10. Briefly describe the "Soo."

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Write a model lesson on *water*.
3. What is the shortest route from New York to Yokohama?
4. (a) Name the aids to commerce.
   (b) What officials do commercial nations appoint for service in large seaports?
5. Compare the life of Chinese and American children.
6. *Name the agents that produce physical changes.
7. In what bodies of water is most transportation carried on? Why?
8. Mention five points in the South which would be of historic interest to children, briefly stating reasons for your selection.
9. Tell what state is south of Pennsylvania, north of Iowa, west of Illinois, north of Maryland, west of Virginia, respectively, locating the principal city in each state.
10. Briefly describe the "Soo."

GEOMETRY.

FIRST GRADE.

1. (a) Define straight angle, perigon, reflex angle.
   (b) Give the symbol for each of the following: circles, squares, "is similar," "is perpendicular," "is parallel."
2. The difference of the squares on the sum of two lines and on their difference, is equal to four times the rectangle on the lines. Give geometrical proof.
3. Can a circle be inscribed in every triangle? Prove your answer.
4. What is the area of an isoceles triangle whose base is $\frac{3}{5}$ of either side and whose altitude is 100?
5. What is the area of the largest circle than can be inscribed in a triangle whose base is 8 ft. and perpendicular 6 ft.?
6. Within a given circle draw four equal circles, each tangent to the given circle and also to the two adjacent circles.
7. Construct $\frac{1}{5}$ of a right angle and explain the work.
8. Demonstrate: The rectangle contained by two lines is a mean proportional between their squares.
9. Give one angle, difference of including sides, and side opposite to construct the triangle.
10. Prove that the angle formed by two chords intersecting in a circumference, is measured by one-half the sum of the arcs included between the sides.

GRAMMAR.

FIRST AND SECOND GRADES.

1. General excellence, including neatness, will count for this number. Capitalization, punctuation, paragraphing, and grammatical construction of entire paper, should be taken into consideration in marking it.
2. (a) What gain accrues from an ability to define several different names for one thing?
   (b) Name the leading characteristics of a good definition.
3. Explain the difference between ellipsis and abridgment, illustrating each.
4. Tabulate the different classes of adjectives, giving example of each.
5. *(a) Name three important things to be noted in the study of pronouns.
   (b) Discuss some of the errors made in the use of the relative.
6. (a) What are the different ideas that may be conveyed by the verb "will"? Explain fully.
   (b) Name some verb that can be used either transitively or intransitively, and illustrate with sentences.
7. *In the following sentence dispose of the infinitive in two different ways, telling which seems to you most reasonable and why: "We heard him move."
8. Mention five good authorities on grammar. What is a "good authority"?

9 and 10. Make a careful outline, with principal heads and subheads, for an essay on any of the following topics. (Do not write an essay.)
Coal. Great Americans, "Oom Paul," National Flags, Holidays.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number. *(See comment on first grade list.)*
2. Illustrate three different methods of comparing adjectives.
3. Write plurals for fly, staff, money, pailful, Mussulman.
4. *(a) Name three important things to be noted in the study of pronouns.
   (b) Show that relative and conjunctive pronouns are identical.
5. Give one sentence that shall illustrate the use of indicative, subjunctive, and potential modes.
6. Write out analysis of the following, paying special attention to concise form and punctuation of your work: "Oh, well, never mind," said he, "I'll speak to your mistress."
7. Correct, if necessary, giving reasons for change:
   (a) I do not know who to send.
   (b) The books lay on the table.
   (c) Tell him to lay the book on the table.
   (d) To preach and practice is very different.
   (e) He spoke to we girls.
8. How does the work of technical grammar differ from that of language lessons?

9 and 10. Make a careful outline, with principal heads and subheads, for an essay on any one of the following topics. (Do not write an essay.)
Coal. Great Americans. "Oom Paul." National Flags. Holidays.

CLASS A.

1. General excellence, including neatness, will count for this number. *(See comment on first grade list.)*
2. Illustrate three methods of comparing adjectives.
3. Write plurals for fly, staff, money, pailful, Mussulman.
4. *What should be the aim of language work in the first three grades?
5. *Name the abbreviations that should be taught in the third grade.
6. Give one sentence that shall illustrate the use of indicative, subjunctive, and potential modes.
7. *Give some method that may be used to accustom the child's ear to correct forms of speech.
8. How does the work of technical grammar differ from that of language lessons?

9 and 10. Make a careful outline, with principal heads and subheads, for an essay on any of the following topics. (Do not write an essay.)
Coal. Great Americans. "Oom Paul," National Flags, Holidays.

ORTHOGRAPHY.

ALL GRADES.

NOTE.—These questions count 50% and the list of words 50%.

1. How many kinds of spelling are there? What should be kept in mind when assigning a spelling lesson?
2. What is meant by "substitutes" in orthography, and what properties do they assume?
3. (a) Give the digraphs of the English language. (b) The trigraphs.
4. (a) What attention do you pay to the rules of spelling?
   *(b) In what grade may a speller wisely be introduced?
5. Syllabicate and mark the following: Frances, maniacal, chorus, machine, divan, carotid, prefer, inveigled, Transvaal, indictment.

THIRD GRADE, BOTH CLASSES.

1. Upon what does accurate spelling depend?
2. Name the letters known as liquids and tell why so-called.
3. (a) Give and define five words with the prefix "re." (b) Five with the suffix "ful."
4. Mark diacritically: earn, urn; ought, aught; cede, seed; yoke, yolk; isle, aisle.
5. Use the above homonyms in sentences.

N. B.—Starred questions refer to some information emphasized either in the Institute Outline or the State Manual and Course of Study.

LIST OF WORDS.

ALL GRADES.

quarts.
curtain.
pleasant.
weigh.
noticed.
celery.
carrot.
insects.
labeled.
pitying.
honey.
precious.
grocery.
forcible.
development.
movement.
judgment.
poplar.
anvil.
special.
envelope.
merely.
cedar.
lettuce.

PENMANSHIP.

ALL GRADES.

NOTE. This must be written with pen. 30 credits for answers and 70 for handwriting.

1. What system of penmanship do you consider best? Why?
2. Briefly discuss position at desk: (a) front, (b) right side, (c) left side.
3. What is the proper height of desk? What do you do when the height is improper?

PHYSICS.

FIRST GRADE.

1. Upon what principle is all physical experimentation based?
2. (a) Explain the philosophy of the "tacking" of a sail-boat.
   (b) Of the use of salt in freezing mixtures.
3. Draw a picture in explanation of the pneumatic inkstand.
4. (a) Describe Torricelli's experiment of which the common barometer is an outgrowth.
   (b) Name the advantages and disadvantages of the aneroid barometer.
5. Explain the general formula for finding rotating value of a "couple," with diagram to illustrate.
6. (a) Of what horse power is an engine that can raise 50 T to a height of 50 ft. in 5 minutes? (b) With what velocity would a stone strike the ground, if dropped from a tower 200 ft. high?
7. (a) Account for the surface tension on liquids.
   (b) Mention some simple experiment to demonstrate the existence of this tension.
8. Explain the operation of the siren in determining pitch.
9. By a diagram show the refraction of rays of light in passing through a prism.
10. Describe the action of the Wimshurst electrical machine. Why is it superior to a Holtz or a Voss?

SECOND GRADE.

1. (a) Mention some simple experiment wnereby you can prove that the air has weight.
   (b) If a person on board a rapidly moving car drops a coin, will it fall in a straight line? Explain.
2. When is a body in equilibrium? Mention some body by which you could illustrate two kinds of equilibrium. Explain.
3. (a) What is a physical change? (b) Explain the relation of a vapor to a solid.
4. (a) Define cold. (b) Why do bodies contract on cooling?
5. (a) Why should shears for cutting metals be made with long handles and short blades?
   (b) Show that the wheel and axle is a modification of the lever.
6. Give the four laws of evaporation.
7. (a) Distinguish between music and noise. (b) Upon what does pitch depend?
8. Fully explain the philosophy of the mirror.
9. *Give an outline for the study of the atmosphere.
10. Name and define three terms much used by electricians.

PHYSIOLOGY.

FIRST AND SECOND GRADES.

1. General excellence, including neatness, will count for this number.
2. Describe the framework of the body, and tell of its composition and use.
3. How are bodily motions produced, and how are the agents that produce motion connected with the bones?
4. Make a list of the tissues, (a) classifying them as to function: (b) as to structure.
5. What is the central organ of the vascular system? To what familiar device may it be likened in its action?
6. (a) Describe the structure of the brain.
   (b) What part of the brain is exercised most while studying deeply upon some subject?
7. Tell of digestion of food, and absorption of the same by the blood.
8. (a) Name two results of respiration. (b) What are the chief organs of respiration?
9. Give two important functions each of the skin, the hair, and the nails.
10. Discuss the effect upon the brain of an excessive use of alcohol.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. (a) Give the two great purposes of food. (b) Name some important articles of diet.
3. Name some substances besides osseous tissue which enter into the composition of the bones.
4. Describe the effect of the use of improper or insufficient food in childhood.
5. (a) In the act of walking, which muscles are brought most into action?
   (b) Which in the act of lifting a weight?
6. How is the true skin protected, and why does it need more protection than the epidermis?
7. (a) What is the chief material in the composition of the teeth?
   (b) What office do the teeth perform in the digestion of food?
8. Describe the posterior chamber of the eye.
9. Describe the middle ear, naming its several parts.
10. Describe the action of alcohol upon digestion.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. What use can be made of the "Suggestive Oral Lessons in Physiology" printed in the State Manual and Course of Study?
3. How are the bones of the human body held in place?
4. Describe the effect of the use of improper or insufficient food in childhood.
5. (a) In the act of walking, which muscles are brought most into action?
   (b) Which in the act of lifting a weight?
6. How is the true skin protected, and why does it need more protection than the epidermis?
7. Explain, as to a child, the necessity for caring for the teeth.
8. Give five cautions regarding the eye that are specially applicable to students.
9. Describe the middle ear, naming its several parts.
10. Describe the action of alcohol upon digestion.

READING.

ALL GRADES.

INSCRIPTION FOR THE ENTRANCE TO A WOOD.

WILLIAM CULLEN BRYANT.

Stranger, if thou hast learned a truth which needs
No school of long experience—that the world
Is full of guilt and misery—and hast seen
Enough of all its sorrows, crimes and cares,
To tire thee of it,—enter this wild wood
And view the haunts of Nature. The calm shade
Shall bring a kindred calm: and the sweet breeze
That makes the green leaves dance, shall waft a balm
To thy sick heart. Thou wilt find nothing here
Of all that pained thee in the haunts of men
And made thee loathe thy life. The primal curse
Fell, it is true, upon the unsinning earth,
But not in vengeance. God hath yoked to guilt
Her pale tormentor, misery. Hence these shades
Are still the abodes of gladness: the thick roof
Of green and stirring branches is alive
And musical with birds that sing and sport
In wantonness of spirit, while below,
The squirrel, with raised paws and form erect,
Chirps merrily. Throngs of insects in the shade.
Try their thin wings and dance in the warm beams

That wake them into life. Even the green trees
Partake the deep contentment; as they bend
To the soft winds, the sun from the blue sky
Looks in and sheds a blessing on the scene.
Scarce less the cleft-born wild flower seems to enjoy
Existence than the winged plunderer
That sucks its sweets. The mossy rocks themselves,
And the old and ponderous trunks of prostrate trees
That lead from knoll to knoll, a causey rude,
Or bridge the sunken brook, and their dark roots,
With all their earth upon them, twisting high,—
Breathe fixed tranquillity. The rivulet
Sends forth glad sounds; and tripping o'er its bed
Of pebbly sands or leaping down the rocks,
Seems, with continuous laughter, to rejoice
In its own being. Softly tread the marge,
Lest from her midway perch thou scare the wren
That dips her bill in the water. The cool wind
That stirs the stream in play, shall come to thee
Like one that loves thee, nor will let thee pass
Ungreeted, and shall give its light embrace.

Preliminary Questions.—(Copied from Institute Outline.)

1. Who wrote this poem?
2. When did he live and where?
3. How does he rank among poets?
4. Name some of his contemporaries.
5. Name some of his most famous poems.
6. What sort of a man was he?
7. Was he ever world-weary himself, like the stranger addressed? What makes you think so?

Word Study.

1. Note the title. What is an inscription?
2. Line 6—define *haunts*. What mistake in its pronunciation is frequently made?
3. Line 7—what is the meaning of *kindred* as here used?
4. Line 18—define *wantonness*.
5. Line 26—what is a "cleft-born wild flower?"
6. Line 27—why should *winged* be given two syllables?
7. Line 33—define *tranquillity*.
8. What is poetic license, and what word in line 30 illustrates it? In line 37?
9. Mark diacritically: hast, calm, dance, waft, loathe, God, roof, squirrel, even, mossy, roots, softly, pass.

Literary Study.

1. Why is the poem addressed to "stranger"?
2. What is the *truth* that "needs no school of long experience"?
3. Does this reference to "a world full of guilt and misery" tend to make the world more inviting? Why?
4. What is personification? What example in line 6?
5. What was the "primal curse"?
6. What do you understand by the "unsinning earth"?
7. What good is subserved by this "yoking together" of guilt and misery? How should this truth affect our acts?
8. What is a pen picture?
9. With what lines does this pen picture of contentment begin and end?
10. Enumerate the different things contributing to the picture.
11. How many things are personified in it? (Note that personification is through the ascribing of *attributes* of persons rather than names.)
12. Can you *feel* the calm beauty of the picture as you read?
13. Does it remind you of any spot you have ever seen?

SCHOOL LAW.

ALL GRADES.

1. How often must the Superintendent of Public Instruction apportion the primary school interest fund, and through what officials is it distributed?
2. How much land may a school district contain? Give the steps necessary for alteration of such district.
3. Give the qualifications necessary for voting upon all questions arising at district school meetings.
4. What is the law in regard to district officers' accepting office?
5. What five items must the report of the district board to the annual meeting contain?

THEORY AND ART.

ALL GRADES.

1. What pedagogical truth underlies the saying, "If Truth were a bird and I had it in my hand, I would let it fly away that I might again pursue and overtake it"?
2. (a) What books have you read to fit yourself for teaching?
   (b) Name five things you have learned from them.
3. What is the office of the special senses in getting knowledge?
4. What mental activities are cultivated by the study of biography?
5. Distinguish between theory and practice.

UNITED STATES HISTORY.

FIRST AND SECOND GRADES.

1. General excellence, including neatness, will count for this number.
2. By what means were the French driven from America?
3. In what respect was England more lenient to Canada that to the other American colonies?
4. (a) What was the object of the "Intolerable Acts"?
   (b) How were they received?
5. (a) State the political idea of the Continental Congress and its source of authority.
   (b) What change in 1781 in the source and nature of this authority?
6. When was the first attempt at federal government in America, and what idea prompted it?
7. (a) What was the subject of the Webster-Calhoun debates?
   (b) State the final setlement of the question and its effect.
8. Why did slavery so early die out in the North and have such a growth in the South?
9. *What battle of the civil war was known as "the Waterloo of the South," and what was its significance?
10. Briefly summarize the recent Kentucky troubles.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number
2. Which department of colonial government was most under colonial control? Illustrate.
3. (a) What relations existed between the colonies previous to 1765?
   (b) Their union was the outgrowth of what idea?
4. What was the importance of the battle at Saratoga?
5. *Why may Fillmore's administration be called "the literary era of the United States"?
6. Name some of the leading agitators of the slavery question.
7. (a) What was the reconstruction policy of Congress?
   (b) State the result of the differences between Congress and President Johnson.

8. State the importance of the thirteenth and fourteeth amendments to the Constitution.
9. State in full the importance of the Mississippi river during the Civil war.
10. Distinguish between the expansionists and anti-expansionists, naming a prominent leader of each.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. What is your opinion of map work in teaching history?
3. (a) What relations existed between the colonies previous to 1765?
   (b) Their union was the outgrowth of what idea?
4. Mention some aids which make your history work interesting.
5. In what grade does the State Manual and Course of Study recommend the introduction of history?
6. Name some of the leading agitators of the slavery question.
7. (a) What was the reconstruction policy of Congress?
   (b) State the result of the differences between Congress and President Johnson.
8. State the importance of the thirteenth and fourteeth amendments to the Constitution.
9. State in full the importance of the Mississippi river during the Civil war.
10. Distinguish between the expansionists and anti-expansionists, naming a prominent leader of each party.

III. QUESTIONS PREPARED BY THE SUPERINTENDENT OF PUBLIC INSTRUCTION FOR THE REGULAR EXAMINATION, JUNE, 1900.

ALGEBRA.

SECOND GRADE.

1. Divide: (a) x^5-y^5 by $x-y$.
   (b) $x^{\frac{1}{2}}-y^{\frac{1}{2}}$ by $x^{\frac{1}{4}}+y^{\frac{1}{4}}$.
2. Factor the following: $32xy^3-8x^3y$; $x^4-\frac{1}{4}x^2$; $x+11x+30$.
3. Extract the square root of $4x^2+8xy+4y^2+4xz+4yz+z^2$
4. Multiply $3+2\sqrt{2}$ by $2-3\sqrt{2}$.
5. Find value of x in the following: $\sqrt{2x+10}+2=\sqrt{12x}$.
6. $x^2-6bx=b^2c^2$. Find two values for x.
7. Simplify $\left(a+\frac{a\ b}{a-b}\right)\left(b-\frac{a\ b}{a+b}\right)$
8. Find two numbers whose sum is 25 and whose product is 144.
9. A's age is 6 times B's, and 15 years hence A will be 3 times as old at B. Find their ages.
10. A number between 10 and 100 is 8 times the sum of its digits; if 45 be subtracted from it, the digits will be reversed. Find the number.

ARITHMETIC.

SECOND GRADE.

1. Discuss, as before a class, the general principles of division.
2. The length of a field is to its breadth as $2\frac{1}{2}$ to $7\frac{1}{2}$, and the cost of fencing it at $1.50 per rod was $480. What was the area of the field?
3. Which is the better and how much per cent, to buy 6% bonds at 75% or to invest in a mortgage bearing 8%, if the mortgage is taxed at $\frac{3}{4}$%?

4. A man sold a farm receiving $\frac{2}{3}$ of the value in cash and a note for the balance, due in three months without interest. This note he immediately discounted at a bank at 6%, paying $57.50 discount. What was the price of the farm?
5. Bought goods at a discount of 20% from the list price, and received 5% discount for cash. I then sold the goods at 10% above the list price. What was my per cent of gain?

THIRD GRADE, CLASS B.

1. Discuss, as before a class, the reduction of fractions to a common denominator.
2. Give and solve, by both formula and analysis, one example each ir two cases of percentage.
3. (a) Give law for "Precedence of Signs."

   (b) $\frac{12\frac{1}{2} - \frac{1}{4} \times 8}{\frac{3}{4} \times \frac{1}{2} + \frac{1}{4}} = ?$
4. A cistern is empty. Its supply pipe will fill it in four hours, and its discharge pipe will empty it in 7 hours. After the supply pipe has been running $1\frac{1}{2}$ hours the discharge pipe is opened. How soon will the cistern be filled?
5. What is the diameter of a field whose area is the same as a quarter section of land?

CLASS A.

1. Discuss, as before a class, the reduction of fractions to a common denominator.
2. Give and solve, both by formula and analysis, one example each in two cases in percentage.
3. (a) Give law for "Precedence of Signs."

   (b) $\frac{12\frac{1}{2} - \frac{1}{4} \times 8}{\frac{3}{4} \times \frac{1}{2} + \frac{1}{4}} = ?$
4. According to the State Manual and Course of Study, what is the second grade number work?
5. 5 oxen or 7 horses will eat a man's crop of hay in 60 days. In what time will 3 oxen and 4 horses eat it?

MENTAL ARITHMETIC.

ALL GRADES.

NOTE—A member of the Examining Board will examine candidates in classes of twenty-five or less, testing quickness to grasp the salient features of a problem, accuracy and rapidity of work, clearness and simplicity of analysis. In the right hand margin applicants will write *as many answers to the first twenty questions as possible in fifteen minutes;* one-half per cent for each answer and one per cent additional for each *correct* one, is given in this part of the examination.

1. Add $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$.
2. From the sum of $\frac{1}{2}$ and 1 take their difference.
3. What is $\frac{1}{3}$ of a number and $\frac{1}{2}$ of its $\frac{1}{3}$?
4. What is the ratio of $2\frac{1}{2}$ cts. to $\frac{1}{2}$ a dollar?
5. What cost $\frac{1}{2}$ doz. pencils at $\frac{1}{2}$c each?
6. The quotient is $2\frac{1}{2}$ times the remainder, which is 4, and the dividend is 124. What is the divisor?
7. Three certain factors of a number, the smallest of which is 3, are $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{4}$. Find the number.
8. What is the L. C. M. of all the nine digits except 7 and 9?
9. How many times can $\frac{5}{6}$ be subtracted from 30?
10. What is the value of a jar of butter, the gross weight of which is $12\frac{1}{4}$ lbs., at 10 cents a pound, if the jar weighs 4 lbs. 12 oz.?
11. How much lumber in a 2x5 scantling 24 ft. long?
12. What will 900 lbs. of hay cost at $16 a ton?
13. What part of a year is 4 mo. 15 days?
14. What is the int. on $800 for 15 mo. at 4%?
15. What is the trade, or commercial, discount on a bill of goods for $100, 20, and 5% off?

16. A invests $400, B $600, C $500. They gain $300. What is C's share?
17. $\sqrt{5\times3}\times\sqrt{12\times20}=?$
18. How much per cent profit must I make on 80c goods to counteract a 25% loss on $1.28 goods?
19. What is the rate per cent of gain in buying at $\frac{3}{4}$c and selling at $\frac{5}{6}$c?
20. What is the rate of gain or loss when $\frac{1}{2}$ of an article sells for what $\frac{5}{8}$ of it costs?

(From the remaining six problems applicants write out a full analysis of *four* selected by the commissioner.)

21. The time past 4 o'clock p. m. is $\frac{1}{3}$ the time to 12 o'clock p. m. What time is it?
22. A and B hire a pasture for $60. A pastures 6 horses, B 12 cows and 62 sheep. How much should each pay if 3 horses eat as much as 5 cows or 20 sneep?
23. A and B engage in business, agreeing that A shall have $5 more than B of every $40 profit. They gain $200. What is each man's share?
24. A bought and sold a piece of property three times. He sold each time at a gain of 10%, and bought it back twice for 20% less that he received for it. What per cent did he make?
25. The 3-inch border of a square chess board contains 204 square inches. What is the size of the board?
26. A company reduced the wages of its employes 10% and then, as there was danger of a strike, made a raise of 5%. How much was the wages still reduced?

BOTANY.

SECOND GRADE.

1. Name the three parts that are essential to a plant's growth.
2. What can you say of the daily movements of leaves?
3. Make a drawing to show the following leaf forms: spatulate, hastate, shield, compound, lobed.
4. Define node, pedicel, placenta, nectaries, pome.
5. (a) Is the flower of dandelion stemless? Explain.
   (b) On what part of the potato plant does the tuber grow?
6. What gives rise to a deliquescent tree trunk? Name one.
7. Name some of the ways in which plants protect themselves against animals.
8. What constitutes a perfect flower?
9. (a) Give a brief definition of the term fruit.
   (b) Of what use to a fruit is the corky layer in its skin?
10. Name a typical berry, and mention the parts to be noted in its study.

CIVIL GOVERNMENT.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. How are the number of national representatives apportioned? Explain fully.
3. Give in substance the meaning of the "sweeping clause" of the constitution and tell how Congress is restricted.
4. (a) How are the charitable institutions of Michigan governed?
   (b) Locate two of them.
5. State what, in your estimation, is the most important work accomplished by the present Congress, giving reasons for answer.
6. What is the precedent regarding the appointment to a vacancy in the Senate when the legislature fails to elect? Illustrate.
7. Upon which does the welfare and perpetuity of popular government in this country the more depend, national or state legislation? Why?
8. What is meant by the military being subordinate to the civil power?
9. How may a citizen of the United States gain a homestead?
10. Briefly state the duties of the State Central Committee.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. (a) Distinguish between natural and political rights.
   (b) Show difference between citizens and electors.
3. Which is the more powerful House of the legislature? Why?
4. Tell when the next election is to be held in Michigan and what offices are to be filled at that time.
5. Briefly describe the supreme court of Michigan.
6. Contrast the township with the state government.
7. Why should a request "for incorporation" be submitted to popular vote?
8. Why is no one, although assessed too high, justified in refusing to pay his taxes?
9. (a) Give title to the chief executive and administrative officer of a city.
   (b) State the importance of the council in city government.
10. Mention some of the peculiar rights of congressmen, giving reasons for same.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. (a) Distinguish between natural and political rights.
   (b) Show the difference between citizens and electors.
3. Which is the more powerful House of the legislature? Why?
4. Tell when the next election is to be held in Michigan and what offices are to be filled at that time.
5. Give name of the speaker of the national House and the presiding officer of the Senate.
6. What do you understand by legal tender?
7. Why should a request "for incorporation" be submitted to popular vote?
8. Why is no one, although assessed too high, justified in refusing to pay his taxes?
9. (a) Give title to the chief executive and administrative officer of a city.
   (b) State the importance of the council in city government.
10. Give your opinion, with reasons, as to the justice of requiring a man without children to pay school taxes.

GENERAL HISTORY.

SECOND GRADE.

1. Show the difference between the eastern and western civilization of olden times.
2. Give cause and result of the conflict in which Hannibal crossed the Alps.
3. Make a brief statement concerning the Colosseum, Hanging Gardens of Babylon, Sphinx, Colossus of Rhodes, Rosetta Stone.
4. Give in full the effect of the victory over the Spanish Armada.
5. Give brief character sketch of Frederick the Great.
6. Tell who the Chartists were and what they accomplished.
7. State the result of the struggle in which the names of Gessler and Arnold Von Winkelreid are prominent.
8. Should the United States send a fleet to Constantinople, what effect would this have upon the Powers? Why?
9. Mention five leading men in European affairs of the present day.
10. What question has recently been of mutual interest to the United States and Denmark? Give your opinion of this question.

GEOGRAPHY.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. Account for the fact that the streams of the Atlantic Plain north of the Hudson river, abound in falls and rapids.
3. Mention five biographies you would teach when studying Europe.
4. Show the importance of the "Soo" canal. Tell who controls it and why.

5. Compare the civilization of Asia with that of Europe. What reasons can you give for existing conditions?
6. Would you expect the far West to be in favor of "expansion?" Why?
7. Tell what you understand by tides and state the cause of same.
8. Tell to whom India belongs and in what industry her people are principally engaged.
9. Briefly describe the Japan stream.
10. Show the importance of the surface structure of a country.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. (a) When does the State Manual and Course of Study recommend the introduction of text-books on geography?
   (b) What work in geography precedes text-book work?
3. Outline a map of Michigan, locating two rivers, five cities, and three bays.
4. Mention ten important commercial cities in the United States, giving reasons for location.
*5. Write a brief outline for the study of commerce.
6. Mention at least five interesting points in the United States you would recommend to tourists, giving reasons for selection.
7. Briefly give an imaginary account of a voyage from New York to Liverpool.
*8. (a) Mention five of our important exports, telling from what sections sent.
   (b) What must be considered in fixing the price of exports?
9. Locate Vera Cruz, Halifax, Buenos Ayres, Vancouver, Geneva, The Hague, Leipsic, Cork, Constantinople and Edinburgh.
10. Briefly tell of the climate, comparative size, products, and education of Porto Rico.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. What is your method of teaching geography to beginners.
3. Outline a map of Michigan, locating two rivers, five cities, and three bays.
4. Mention ten important commercial cities in the United States, giving reasons for selection.
5. Mention five forest trees, telling where found and of what commercial value.
6. Mention at least five interesting points in the United States you would recommend to tourists, giving reasons for selection.
7. Briefly describe the customs and habits of some foreign nation.
*8. In teaching geography what purpose do you hold in view?
9. Write a model lesson on soil.
10. Briefly tell of the climate, comparative size, products, and education of Porto Rico.

GRAMMAR.

SECOND GRADE.

1. General excellence, including neatness, will count for this number. Capitalization, punctuation, paragraphing, and grammatical construction of entire paper should be noted in marking it.
2. What is an elliptical sentence? Give example.
3. What is your opinion of the value of the reproduction exercises in language work?
*4. Give sentences to show difference between explanatory and restrictive relative clauses. Do they require the same punctuation?
*5. Define and illustrate all classes of subordinate conjunctions.
6. (a) Show difference between a personal pronoun in the possessive case, and a possessive pronoun.
   (b) A possessive pronoun may be in what case?
*7. Formulate sentences containing the following:
   (a) A noun used as adjective.
   (b) A verbal noun with adverbial modifier.
   (c) An infinitive used as a nominative absolute.

8. Classify different clauses of the following:

"When first our scanty years are told,
It seems like pastime to grow old;
And as youth counts the shining links
That time around him binds so fast,
Pleased with the task, he little thinks
How hard that chain will press at last."

9 & 10. Write not less than 150, nor more that 250 words, on any of the following topics:

Memorial Day.
The Apple Blossom.
The School Library.

N. B.—Take care that your essay reaches the required length by the expression of thought, not by the addition of superfluous words.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number. (See comment on second grade list.)
2. Define the different parts of speech.
3. Give full synopsis of the verb *ring*.
4. (a) What is the "Law of Use" for the verb *have*, given in the State Manual and Course of Study?
   (b) What is your method of correcting the most common errors of speech made by pupils?
*5. Illustrate the use of some collective noun that can be used with both singular and plural verb.
*6. Supply the proper tense for the following sentences:
   (a) He ——— ill all the week.
   (b) He ——— ill this whole week.
7. (a) Recast the following so as to express the thought more concisely and elegantly:
   That man that you told me about and wanted to see, is on his way to Porto Rico and it is an interesting country.
   (b) Justify your punctutiaon of the same.
8. Analyze or diagram:
   "Cigarets in boyhood are about as useful in building up a strong body as dynamite would be in building a house."
9 & 10. Write not less than 150, nor more that 250 words, on any of the following topics:
   Memorial Day.
   The Apple Blossom.
   The School Library.

CLASS A.

1. General excellence, including neatness, will count for this number. (See comment on second grade list.)
2. Define the different parts of speech.
*3. What is the purpose of the first grade language work?
4. What is your method of correcting the most common errors of speech made by pupils?
*5. Illustrate the use of some collective noun that can be used with both singular and plural verb.
*6. Supply the proper tense for the following sentences:
   (a) He ——— ill all the week.
   (b) He ——— ill this whole week.
*7. (a) In what grade would you first teach letter writing?
   (b) Name the parts, or divisions, of a letter.
*8. Mention several things that may be used for language work in the second grade.

9 & 10. Write not less than 150. nor more that 250 words, on any of the following topics:

Memorial Day.
The Apple Blossom.
The School Library.

ORTHOGRAPHY.

ALL GRADES.

1. Expand the following abbreviations: F. R. S.; Q. E. D.: ult.; LL. D.; e. g.
2. Give meaning of the following prefixes: trans, pre, sub, dis, ex. Illustrate.
3. Give rule for dropping final *e;* for changing *y* to *i.*
*4. In what grades does a text-book on orthography properly belong?
5. Mark the following diacritically: grandeur, vast, silent, solemn, rudely, exaltation, soon, homage, coffin, prefer.

*Starred questions refer to points emphasized in the various publications of the Department of Public Instruction.

PENMANSHIP.

ALL GRADES.

NOTE— (This should be written with a pen. 70 credits for handwriting and 30 for correct answers.)

1. Give your reasons for or against "vertical" writing.
2. Discuss the following: (a) position of body; (b) holding the pen: (c) movement.
3. What should govern the place on daily program of the class-exercise in writing?

PHYSICS.

SECOND GRADE.

1. At what temperature does water reach its maximum density? Show that this is a wise provision of nature.
2. If 2½ seconds elapse between the flash and report of a gun, how far distant is the observer, the temperature of the atmosphere being 90° Fahrenheit?
3. Name one substance heated by convection. Name one heated by conduction.
4. Make a drawing of three forms of lenses, designating each by name, and telling position and relative size of image formed by each.
5. (a) Describe a voltaic cell in which two liquids are used. (b) Describe a voltaic cell in which two metals are used.
6. Illustrate by a drawing the effect of a prism upon a ray of white light. Is the change physical or chemical?
7. What is a physical law?
8. (a) Define electrolysis. (b) What is distillation?
9. What two factors determine kinetic energy?
10. A ball is thrown vertically downward from a tower 257.28 feet high, with an initial velocity of 30 ft. (g=32.16 ft. per sec.) With what velocity will it strike the ground?

PHYSIOLOGY.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. Name three digestive fluids, stating how each is secreted.
3. Trace the digestion of a meal consisting of bread, butter, cheese, lean meat, and rice.
4. (a) Give a general description of the nervous system.
   (b) How is the nervous system affected by stimulants and narcotics?

5. (a) Give a full description of the circulation of the blood.
   (b) Speak of its constituents and the cause of its clotting.
6. (a) Into what general classes are muscles divided? (b) How do these classes differ in their relation to the nervous system?
7. (a) What is meant by the "portal circulation?"
   (b) What is arterial pressure and what its cause?
8. Make drawing to show the structure of the eye.
9. (a) Describe the lymphatic system.
   (b) What do you understand by the ductless glands?
10. Explain the respiratory mechanism of the human body.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. Give three uses, or functions, of the spinal column, and three of the skin.
*3. What knowledge of physiology should be acquired in the first four grades?
4. What are the functions of the following: capillaries, valve of the heart, red corpuscles, portal vein?
5. Describe the course of the blood through the right side of the heart.
6. What are the functions of the liver?
7. Why are the tissues of the body constantly wasting, and how is this waste made good?
8. Of what is the air composed, and which constituent is the great life supporter?
9. (a) What do you understand by the term food?
   (b) How do the staple articles of food differ in hot and cold countries? Why?
10. (a) How does tobacco affect the nervous system? (b) The mental activity of the growing youth?

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Describe each of the divisions of the body.
*3. What knowledge of physiology should be acquired in the first four grades?
4. What are the functions of the following: capillaries, valve of the heart, red corpuscles, portal vein?
5. Describe the course of the blood through the right side of the heart.
6. What is the meaning of the word skeleton in a physiological sense?
7. Why are the tissues of the body constantly wasting, and how is this waste made good?
8. With what is each group of muscles supplied?
9. Mention some good disinfectants and the methods of using them.
10. (a) In what special way are drug habits dangerous?
   *(b) What should be the aim of all instruction in lower grades regarding stimulants and narcotics?

READING.

ALL GRADES.

(Answers to these questions should be written and count for forty credits, sixty being given on the oral test.)

*1. (a) What is the pure tone in reading? (b) When should it be used?
*2. What errors of pronunciation should be specially guarded against?
*3. Which is of greater importance, quality or quantity of tone? Why?
*4. Why is correct breathing important?

I.

"Oh spare my child, my joy, my pride!
Oh, give me back my child!" she cried.
"My child! my child!" with sobs and tears,
She shrieked upon his callous ears.

Chas. Mackay.

II.

My native land, my native land,
To her my thoughts will fondly turn,
For her the warmest hopes expand,
For her the heart with fears will yearn.

Oh, may she keep her eye, like thee,
Proud eagle of the rocky wild,
Fixed on the sun of liberty,
By rank, by faction, unbeguiled;

Remembering still the rugged road
Our venerable fathers trod,
When they through toil and danger pressed
To gain their glorious bequest,
And from each lip the caution fell
To those who followed, "Guard it well."—*Chas. West Thomson.*

III.

New England has been prolific of children fitted for the time. For a suitable leader there was necessary a man of sufficient ascendency, through intellect and character, to win deference from all; wise enough to see always the supreme end, to know what each instrument was fit for, and to bring all forces to bear in the right way; a man of consummate adroitness, to sail in torpedo-sown waters without exciting an explosion, though conducting wires of local prejudice, class-sensitiveness, and personal foible on every hand led straight down to magazines of wrath which shatter the cause in a moment; a man having resources of his own to such an extent that he could supplement from himself what was wanting in others—always awake though others might want to sleep, always at work though others might be tired—a man devoted, without thought of personal gain or fame, simply and solely to the public cause. Such a man there was, and his name was Samuel Adams.—*Anon.*

SCHOOL LAW.

ALL GRADES.

1. When shall a district be deemed duly organized?
2. Name five powers granted by law to the annual school meeting.
3. What authority has the district board relative to purchasing text-books for certain children?
4. What is the one-mill tax? How and upon what property is it assessed?
5. When and by whom may school-house sites be designated? When changed?

THEORY AND ART.

ALL GRADES.

1. What effect had New England town life upon schools and learning?
2. Explain the nature of the will, and show its relation to perception and attention.
3. In your opinion what is the key-note of Pestalozzi's success as a teacher?
4. Name and discuss those surroundings of the child that are calculated to stimulate his powers of observation.
*5. Express your opinion as to frequency and nature of written tests.

UNITED STATES HISTORY.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. Mention the social and educational features of Virginia colonial life.
3. What did each of these accomplish: Eric, Cartier, Behring, Lewis & Clarke, Commodore Perry?
4. Contrast Massachusetts Bay Colony with Plymouth in wealth, government, and religion.
5. (a) Of what special idea was each of the following an exponent: Henry Clay, Daniel Webster, John C. Calhoun?
   *(b) Why is biography of special importance in history study?
6. What was the origin of Harvard College? Of Yale?
7. Speak briefly of five important events in Cleveland's second administration.
8. (a) Name the 45th state admitted to the Union, stating what objections were made to its admission and how they were removed.
   (b) Has this state kept faith with the Union? Explain.
9. What is the present status of Cuba's educational system?
10. Make a statement about any five of the following:

William Goebel.	Danish West Indies.
President Steyn.	The Pacific Cable.
Lord Roberts.	Postal System of Cuba.
Chas. H. Allen.	Governor of Hawaii.
Porto Rican Tariff.	Claims Against Turkey.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. Mention some of the social and educational features of New England colonial life.
3. Distinguish between the discoveries of Americus Vespucius and Columbus.
4. What was the reason for Rhode Island's rapid growth in early times?
5. Write a short character sketch of "Old Hickory."
6. Tell of the Alaska Purchase, and a recent discovery that greatly enhances its value.
*7. Give three primary and two secondary dates, naming related events.
8. What led to the repeal of the Sherman Act? Was it effective?
9. When was the famous Venezuelan boundary dispute settled and how?
10. Make a statement about any five of the following:

William Goebel.	Danish West Indies.
President Steyn.	The Pacific Cable.
Lord Roberts.	Postal System of Cuba.
Chas. H. Allen.	Governor of Hawaii.
Porto Rican Tariff.	Claims Against Turkey.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Mention some of the social and educational features of New England colonial life.
*3. What are the two special lines to be studied in preparatory history work?
4. What lesson can you draw from Clara Barton's life?
5. Write a short character sketch of "Old Hickory."
6. Tell the story of the Alamo in a way calculated to teach unselfish valor.
*7. Give three primary and two secondary dates, naming events connected therewith.
8. (a) Where is Independence Hall and why famous? (b) Washington Elm?
9. What is the present status of Cuba's educational system?
10. Make a statement about any five of the following:

William Goebel.	Danish West Indies.
President Steyn.	The Pacific Cable.
Lord Roberts.	Postal System of Cuba.
Chas. H. Allen.	Governor of Hawaii.
Porto Rican Tariff.	Claims Against Turkey.

IV. QUESTIONS PREPARED BY THE SUPERINTENDENT OF PUBLIC INSTRUCTION FOR THE REGULAR EXAMINATION, AUGUST, 1900.

ALGEBRA.

FIRST GRADE.

1. General excellence, including neatness, will count for this number.
2. (a) Prove, as to a class, that subtracting a negative quantity is equivalent to adding an equal positive quantity.
   (b) Give in order the steps to be taken in the solution of an algebraic problem.
3. (a) Demonstrate that $x^{-3}=\frac{1}{x^3}$.
   (b) Prove that if $a:b::c:d$ and $e:f::g:h$, $ae:bf::cg:dh$.
4. Factor $a^2-b^2-(a-b)^2$; $4a^2-y^2-9z^2+6yz$; $\frac{1}{4}x^3+\frac{17}{6}x^2-\frac{5}{4}x+\frac{9}{4}$.
5. Find all values of x in following: $\frac{x-1}{\sqrt{x-1}}=3+\frac{\sqrt{x}+1}{2}$.
6. Solve by "s" substitution. $\left.\begin{matrix}x+a=y+z\\ y+a=2x+2z\\ z+a=3x+3y\end{matrix}\right\}$
7. (a) Divide $\frac{\sqrt[4]{a}}{b}$ by $\frac{\sqrt[3]{a}}{b}$. (b) Rationalize $\frac{1-\sqrt{5}}{5+\sqrt{5}}$.
8. (a) Find the sum of $1, -\frac{1}{x^2}, \frac{1}{x^4}, -\frac{1}{x^6}$ to infinity.
   (b) Extract the square root of $14+6\sqrt{5}$.
9. A and B lay out some money in speculation. A disposes of his bargain for $11, and gains as much per cent as B lays out. B gains $36, when it appears that A gains four times as much per cent as B. Required the capital of each.
10. Upon what principles do the following processes depend:
    (a) Clearing an equation of fractions?
    (b) Transposition of a term?
    (c) Finding a third proportional?
    (d) Elimination by comparison?
    (e) Finding value of two numbers whose sum and difference are known?

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. Define algebraic term, similar terms, residual quantity, formula, simultaneous equations.
3. Factor the following quantities and tell the principle used:
   (a) $x^2+y^2+z^2+2xy-2xz-2yz$; (b) $25-9x^6$; (c) x^4-7x^2-60; (d) x^5+y^5; (e) $(x+y)^2-(a-b)^2$.
4. Solve for x: $x-\frac{26-x}{2}=\frac{x-11}{3}$.
5. (a) Make and solve a *general* problem (all values represented by letters).
   (b) Solve with one unknown quantity:
   A and B have equal incomes; A lays up $\frac{1}{4}$ of his each year, but B spends $\frac{1}{4}$ more than A and in 3 years is $600 in debt. What is the income of each?
6. Solve for x and y: $\left.\begin{matrix}x^2+xy=140.\\ y^2+xy=56.\end{matrix}\right\}$
7. Solve for all values of x: $\sqrt{x+3}+\sqrt{x+8}-\sqrt{4x+21}=0$.

8. (a) Find the equation whose roots are -2 and $\frac{1}{2}$.
   (b) Divide $3\sqrt{\frac{1}{2}}$ by $2\sqrt{\frac{1}{3}}$.
9. Expand $(a-2b)^6$.
10. A number divided by the product of its two digits is $5\frac{1}{2}$; but, when 9 is subtracted from it, the resulting number is expressed by the two digits in inverse order. Find the number.

ARITHMETIC.

FIRST AND SECOND GRADES.

1. A builder offered to build a house, the material to cost $1\frac{1}{2}$ times as much as the labor, but before his offer was accepted, labor advanced 10% and material 7%, making the cost of the house $205 greater. What was the original offer?
2. I buy coal at $4 per ton on 4 mos. credit. At what price must I sell it at once to gain 20 per cent, money being worth 6 per cent?
3. Discuss, as before a class, "problems in interest"; i. e., three elements given to find the *fourth*.
4. I set an orchard whose length was to its breadth as 2 to 3, but having 120 trees remaining, added two rows to both length and breadth, having still 16 left. How many trees were set at first?
5. A ship sailed due N. E. 50 mi., then due N. 25 mi. How far was she from the point of starting?

THIRD GRADE, CLASS B.

1. Give rules for determining by inspection when the following are exact divisors: 2, 3, 4, 5, 9.
2. Formulate and work problems to illustrate two cases in percentage.
3. A and B enter into partnership, A putting in $1,200, B $1,500. At the end of 6 mos., A draws $200 and B enough to make his share $\frac{1}{2}$ of $\frac{3}{5}$ of A's. Six mos. later they divide their total capital of $3,150. What was each man's share?
4. A mining company has three mines, each one of which has three shafts. Each of these shafts brings to the surface 85 tons of copper ore daily. If the ore contains $1\frac{3}{4}$ per cent of copper worth 18c a pound, what is the value of the daily product of the three mines?
5. A circular park 250 rods in diameter contains within it a circular lake 125 rods in diameter. What is the area of the park exclusive of the lake?

CLASS A.

1. Give rules for determining by inspection when the following are exact divisors: 2, 3, 4, 5, 9.
2. Formulate and work problems to illustrate two cases in percentage.
3. (a) In what respect does the first-year work in numbers in the State Manual and Course of Study differ from the second-year work?
   (b) Give three principles of the Grube Method.
4. How do you teach pupils to subtract when a figure of the subtrahend is greater than the corresponding figure of the minuend? How do you explain this principle?
5. If $\frac{3}{4}$ of a ton of hay can be bought for $12\frac{1}{2}$, how much can be bought for $10? (Solve by cancellation.)

MENTAL ARITHMETIC.

ALL GRADES.

NOTE—A member of the Examining Board will examine candidates in classes of twenty-five or less, testing quickness to grasp the salient features of a problem, accuracy and rapidity of work, clearness and simplicity of analysis. In the right hand margin applicants will write *as many answers to the first twenty questions as possible in fifteen minutes;* one-half per cent for each answer and one per cent additional for each *correct* one, is given in this part of the examination.

1. What is the sum of the nine digits?
2. In finding the possible sums of any two digits, how many combinations must be made?
3. What is the G. C. D. of 12, 18, 24, 36, 72, 84 and 93?
4. Add $\frac{1}{2}$ of 1,000, $\frac{1}{3}$ of 2,000, $\frac{1}{4}$ of 7,000, and $\frac{1}{7}$ of 14,000.
5. $12 \times 33\frac{1}{3} = ?$
6. $36 \times 66\frac{2}{3} = ?$
7. $12 \times 32\frac{1}{2} = ?$
8. $21 \times 67\frac{1}{2} = ?$
9. $1,200 \div 25 = ?$
10. $600 \div 33\frac{1}{3} = ?$
11. $2,400 \div 66\frac{2}{3} = ?$
12. $36 \times 99 = ?$
13. What cost 40 acres of land at $\$1.12\frac{1}{2}$ an acre?
14. How many yards of cloth at $16\frac{2}{3}$ cts. can be bought with $250?
15. $\frac{2}{3}$ of 56 is how many fifths of 25?
16. What is the cost of 60 spoons at $2.50 per dozen?
17. What is the discount on $120 for 90 days at 6 per cent?
18. Paid 15c a doz. for eggs and sold them at 12c. What per cent of the selling price was the cost?
19. If a circular field 20 rods in diameter is worth $100, what is a circular field 50 rods in diameter worth?
20. What per cent of 2 lbs. avoirdupois is 2 oz.?

N. B.—From the following ten, second and third grade applicants write *full analysis* of four selected by the examiners from the *first six*. First grade applicants write the analysis of the *last four.*

21. If 3 men can earn $\$11\frac{1}{4}$ in a certain time, how much can 7 earn in the same time?
22. John earns $\$\frac{1}{2}$ as often as James earns $\$\frac{2}{3}$. When they together have earned $93, how much has each earned?
23. A can earn $10 in $2\frac{1}{2}$ days, and B in $3\frac{1}{2}$ days. In how many days can they together earn $48?
24. A can do a piece of work in 2 days, B in 3 days, and C in 4 days. They together do the work, receiving $130. What is each man's share of the money?
25. After selling $\frac{1}{3}$ my chickens and $\frac{1}{4}$ the remainder, I had 30 left. How many had I at first?
26. Bought some lemons at 3c each and twice as many oranges at 4c each. How many of each were there, if they all cost $1.10?
27. If 5 men can do a piece of work in 6 days, and 3 men can do as much as 5 boys, how long will it take 5 men and 10 boys to do the same work?
28. A coat and vest cost $27. The vest cost $2 more than $\frac{1}{4}$ the cost of the coat. What was the cost of each?
29. A has 60 acres of land; B has 40 acres. Together with C they form a partnership, C paying them $1,000 for his equal share. How should A and B divide the money?
30. A man bought two horses, one at $300, the other at $450. He sold both at the same price, gaining the same per cent on one that he lost on the other. At what price did he sell?

BOTANY.

FIRST GRADE.

1. (a) What double purpose is served by the aerial roots of Indian corn?
   (b) What are fascicled roots? Give example.
2. (a) Define morphology.
   (b) Give morphology of the potato.
3. What do you understand by the "definite annual growth" of trees?
4. Show the importance of vernation.
5. (a) What is protoplasm?
   (b) Name some of the powers belonging to living protoplasm.
6. (a) How is pollen protected from rain and dew?
   (b) Why does a plant possess more pollen tubes than ovules?
7. What proves that the yeast cell is of vegetable rather than animal nature?
8. Explain the nature of the lichen that encrusts rocks.
9. With what authors on botany are you acquainted and which is your favorite?
10. Give characteristics of the Coniferae.

SECOND GRADE.

1. Describe difference between the cotyledons of squash and pea.
2. Mention several features of the plant root to show its adaptation to its work.
3. Name a typical tuber and state its apparent use to the plant.
4. Make a drawing to show difference in the venation and margin of maple and apple leaf.
5. Why is a plant unhealthy when its leaves are constantly dust-covered?
6. (a) What portion of the bark is utilized by the school boy in making whistles?
   (b) State the function of this layer.
7. Define dioecious, hypogynous, gamosepalous.
8. Describe the principal ways in which the anther discharges its pollen.
9. Mention at least five things to be noted in making a study of the flower of buttercup.
10. Reproduce the tabulation of *parts of a flower* as given in the Institute Outline. (If you have not seen it, make one of your own.)

CIVIL GOVERNMENT.

FIRST AND SECOND GRADES.

1. General excellence, including neatness, will count for this number.
2. According to the Constitution, who are citizens?
3. In case the electoral college fails to elect President and Vice President, who elects them?
4. (a) To whom are the foreign relations of the United States entrusted?
   (b) Briefly mention some of their duties.
5. From what sources does the United States derive its revenue? The State?
6. Mention date and instrument by which the ballot was given the negro.
7. What do you understand by party machinery?
8. State the importance of the primaries.
9. How may our state constitution be amended?
10. What is the purpose of the Court of Claims?

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. Why should members of Congress be exempt from arrest in certain cases?
3. Name, in order, the persons entitled to succeed to the Presidency in case of vacancy.
4. State in full the importance of the Department of Agriculture.
5. Tell what is meant by the following: protection, free-trade, tariff for revenue only, reciprocity, and tariff.
6. Mention five powers of Congress.
7. Show wherein the people of this country are freer than those of other countries.

8. Briefly describe territorial government.
9. (a) How do people secure their civil rights?
   (b) Why is a corrupt vote an attack on the rights of the people?
10. Mention at least two appointive offices of this state.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Why should members of Congress be exempt from arrest in certain cases?
3. Name means you employ to inculcate ideas of patriotism.
*4. Briefly show individual responsibility for good government.
5. Tell what is meant by the following: protection, free-trade, tariff for revenue only, reciprocity, and tariff.
6. Show the justice of taxation.
7. Briefly describe territorial government.
8. Show wherein the people of this country are freer than those of other countries.
9. (a) How do people secure their civil rights?
   (b) Why is a corrupt vote an attack on the rights of the people?
10. Why are citizens said to be *rulers?*

GENERAL HISTORY.

FIRST GRADE.

1. State the effect of the Crusades on European history and culture.
2. What were the results of the Norman conquest on England?
3. What was the significance of the Revolution of 1688?
4. Wherein lies the strength and the weakness of Austria-Hungary? Explain.
5. State briefly the effect of the French revolution on France in particular and Europe in general.
6. What was the pith of the English Reform Act of 1832?
7. (a) What effect had the Zollverein upon the unity of Germany? (b) What effect had the rivalry of Austria and Prussia?
8. Briefly state the effect upon the Turkish empire of her existing civilization.
9. (a) What was the relation between Germany and Austria previous to 1866? (b) What relation exists between them at present?
10. Who are the "Boxers" and what has been the result of their efforts?

SECOND GRADE.

1. Describe the manners and customs of the early Greeks.
2. What was the cause and result of the Peloponnesian war?
3. Tell whom you consider Italy's national heroes, giving reasons for choice.
4. Give a brief biology of Bismarck.
5. What nations were engaged in the Crimean war? What was the effect of this war?
6. What was the Congress of Vienna?
7. Speak briefly of the present relations between England and Ireland.
8. What nations belong to the Triple Alliance? What is the object of this alliance?
9. State Gladstone's attitude toward the government when he entered Parliament, and tell what later modified his opinions.
10. Give some examples to show the influence of physical features of a country on the development of civilization.

GEOGRAPHY.

FIRST AND SECOND GRADES.

1. General excellence, including neatness, will count for this number.
2. (a) What general law do the grand divisions follow with regard to shape?
   (b) What coincidences are noticeable in regard to the arrangement of mountain systems?
3. Tell how mountains affect the condensation of vapors, and give examples to prove your statement.
4. Mention five good reference books, with authors, on geography.

5. Give some practical route around the world, starting from San Francisco.
6. Distinguish between geology and physical geography.
7. Give cause of the frequent storms which mark the course of the Gulf Stream across the Atlantic.
*8. State some advantages of the topical method in recitation work.
9. State the effect of the following on customs and habits of mankind: physical features, climatic condition, character of soil, valuable minerals.
*10. Show the influence on commerce of the telegraph and railway.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. What is the difference between a physical and a political map?
3. Give directions for making putty maps.
4. In your opinion, what benefit is to be derived from studying the geography of each State separately?
*5. Mention five of the principal commercial cities in the United States, giving reasons for their location.
6. In what part of the United States is herding chiefly carried on? Why?
7. Explain the system of reckoning standard time.
8. Outline five topics relative to the geography of Michigan.
9. Discuss briefly the advantage of taking field trips with pupils who are studying geography.
10. Locate and state an interesting fact in connection with each: Melbourne, Puebla, Pueblo, Johannesburg, Rio de Janerio, Siberia, Genoa, Nashville, Colorado Springs, Leipzig.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Mention some of the advantages gained by the use of pictures and objects in the classroom.
3. Give directions for making putty maps.
4. In your opinion, what benefit is to be derived from studying the geography of each state separately.
*5. Mention five of the principal commercial cities in the United States, giving reasons for location.
6. In what part of the United States is herding chiefly carried on? Why?
7. Mention five books on geographical subjects, of interest to children.
8. Outline five topics relative to the geography of Michigan.
9. Name, in order, all the States that border on the Great Lakes.
10. Locate and state an interesting fact in connection with each: Melbourne, Puebla, Pueblo, Johannesburg, Rio de Janiero, Siberia, Genoa, Nashville, Colorado Springs, Leipzig.

GEOMETRY.

FIRST GRADE.

1. (a) In what grades should the first principles of geometry be taught? (b) What may be used as basis of logical proof in geometry?
2. Classify triangles with reference to their sides; their angles. Draw and name each.
3. Demonstrate: If two triangles have one angle of the one equal to one angle of the other, and their including sides proportional, the triangles are similar.
4. Define transversal, conjugate angles, geometric solid, commensurable lines, concentric circles.
5. Construct a parallelogram equal to a given triangle and having one of its angles equal to a given angle.
6. Two sides of a right triangle are respectively 10 inches and 24 inches. Required the length of their projections on the hypotenuse, and the distance of the vertex of the right angle from the hypotenuse.
7. Two tangents meet at a point distant the length of a diameter from the center of the circle. How many degrees in their included angle?

8. One diagonal of a quadrilateral is 100, and the perpendiculars from the other two vertices upon it are 50 and 40. Find the area.
9. State and demonstrate any proposition referring to chords of circles.
10. (a) Find the locus of all points equally distant from two parallel lines; of all points equally distant from two intersecting lines.
    (b) Demonstrate: The product of the diagonals of an inscribed quadrilateral equals the sum of the products of the opposite sides.

GRAMMAR.

FIRST AND SECOND GRADES.

NOTE—All these questions are along lines especially emphasized in the "Institute Outline." In marking the last number, capitalization, punctuation, paragraphing, and grammatical construction, should be carefully noted.

1. General excellence, including neatness, will count for this number.
2. (a) How may one distinguish between direct object and factitive object?
   (b) Tell which of the following infinitives is *direct* object:
   We heard him move.
   We made him move.
3. Name four things to be noted in the study of prepositions, and illustrate each.
4. (a) Why is a knowledge of abridgment an aid to analysis?
   (b) What kind of clauses are most frequently abridged?
5. Cite several authorities that use the infinitive in three ways; viz., noun, adjective, and adverb. Give sentences to illustrate each of these uses.
6. Dispose of each word in the following: No one thought of its being he.
7. Explain and illustrate the difference between elision and ellipsis.
8. (a) How may classic literature assist in language work?
   (b) Name some book of fiction that would enrich the reader's vocabulary.

9 and 10. Write a brief, concise, symmetrical essay on any of the following subjects:
Day Schools for the Deaf.
Our Normal School System.
Value of Manual Training.
Effect of Environment.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. Illustrate three uses of the comma, one of the semi-colon, one of the colon.
3. Give a sentence containing the perfect participle used as an adjective. The participle is an abridgment of what kind of clause?
4. (a) Give two particulars in which the participle and infinitive are alike.
   (b) Two in which they are unlike.
5. Analyze: To go or to stay, that is the question to decide.
6. Select the transitive verbs in the following, giving reasons for choice:
   Fire burns. The sun sets.
   He feels cold. The man sees.
   I shall write you.
7. Construct a sentence in which the *real* subject is not readily distinguished. (Italicize subject.)
8. Explain all corrections necessary in the following:
   No one thought of its being him.
   She spoke to we girls.
   Will you give me a recommend?
   The dress sets well.
   He is taller than me.

9 and 10. Write a brief, concise, symmetrical essay on any of the following subjects:
Learning by Doing.
The Study of Current Events.
The Summer Normal.
Effect of Environment.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Illustrate three uses of the comma, one of the semi-colon, and one of the colon.

3. What should a pupil be able to write before leaving the first grade?
4. What should be the main purpose of fourth grade language work?
5. (a) What should the teacher avoid during the first year's work in technical grammar?
   (b) Of what importance are definitions?
6. Select the transitive verbs in the following, giving reasons for choice:
   Fire burns. The sun sets.
   He feels cold. The man sees.
   I shall write you.
7. What is an adjective pronoun? Give example.
8. Explain all corrections necessary in the following:
   No one thought of its being him.
   She spoke to we girls.
   Will you give me a recommend?
   The dress sets well.
   He is taller than me.

9 and 10. Write a brief, concise, symmetrical essay on any of the following subjects:
   Learning by Doing.
   The Study of Current Events.
   The Summer Normal.
   Effect of Environment.

ORTHOGRAPHY.

ALL GRADES.

NOTE.—These questions count 50 per cent and the list of words 50 per cent.

1. Define elementary sound. How many do we use, and how are they classified?
2. Define derivative and compound words, giving example of each.
3. Write proper contractions for the following: are not, I will, shall not, is not, he will.
4. Use the following words in sentences: obsolete, apprisal, inevitable, sinister, contingent, vertical, ethical, psychological, nonpareil, incomparable.

*5. How do you manage to keep your pupils interested in spelling?

N. B.—Starred questions refer to some information emphasized either in the Institute Outline or the State Manual and Course of Study.

LIST OF WORDS.

ALL GRADES.

1. diligent.
2. privilege.
3. habitual.
4. artificial.
5. sufficient.
6. Mediterranean.
7. voluntary.
8. usually.
9. reputation.
10. inquiry.
11. temporary.
12. repealed.
13. Egypt.
14. ancestor.
15. personally.
16. susceptible.
17. delusion.
18. Missouri.
19. discipline.
20. inevitable.
21. autumn.
22. cotton.
23. opinion.
24. Hong Kong.
25. British Isles.

PENMANSHIP.

ALL GRADES.

1. Write the following sentence five times, noting the time consumed, and tell how many words you average per minute: "Good luck is the willing handmaid of upright, energetic character, and conscientious observance of duty." (60 credits.)
2. Compare the slant and vertical systems of penmanship as to speed, legibility, and ease in execution. (40 credits.)

PHYSICS.

FIRST GRADE.

1. Connect each of the following names with one fact of physical science: Pascal, Boyle, Joule, Tesla, and La Clanche.
2. A plank 12 ft. long and weighing 24 lbs. is supported by two props located respectively three feet and one foot from the ends. What is the pressure on each prop?
3. Two forces of 60 and 80 lbs. act upon an object at an angle of 60°. Give graphic representation of resultant.
4. Discuss latent heat as before a class in high school.
5. How many calories of heat will be required to melt 10 kilograms of ice?
6. (a) What is an achromatic lens? Why used?
   (b) Give the laws of light.
7. A coast gun is mounted 100 ft. above the level of the water. What is the random of a shot from this gun, if it starts with a velocity of 2,000 ft. per second? ($g.=32.16$).
8. Represent the arrangement of three voltaic cells so as to form a battery of low internal resistance. If the E. M. F. of each cell is 1.8 volts, internal resistance of each .9 ohm and external resistance .3 ohm, what is the current strength of this battery?
9. What is the amperage of the same cells so arranged as to give high E. M. F.?
10. The specific gravity of alcohol is .8. Over how high a ridge can alcohol be carried by a siphon, when the barometer stands at 750 mm?

PHYSICS.

SECOND GRADE.

1. Upon what conditions does rapidity of evaporation depend?
2. Give experiments to prove that sound is transmitted by gases, liquids, and solids.
3. Two trains of cars have equal momenta. The first has a velocity of 20 miles an hour and weighs 725 tons. What is the weight of the second train, if its velocity is 15 mi. per hour?
4. Make a drawing of a 10-ft. lever of the second class in such position that 800 lbs. will support 1,000 lbs.
5. Explain how heat may be used to ventilate a room.
6. Define molecular energy, potential energy, kinetic energy, adhesion, and gravitation.
7. What would a body weighing 150 lbs. at the surface of the earth weigh 4,000 miles above the earth?
8. When the "sweat" on ice pitchers is abundant, does it forebode fair or rainy weather? Explain.
9. A piece of copper wire 18.12 yds. long has a resistance of 3.02 ohms. How long must another piece of same diameter be, if its resistance is 22.65 ohms?
10. Speak of images seen in plane, concave, and convex mirrors.

PHYSIOLOGY.

FIRST AND SECOND GRADES.

1. General excellence, including neatness, will count for this number.
2. Define anatomy, physiology, hygiene, and give a reason for studying physiology.
3. (a) What is the normal temperature of the body? (b) What parts of the body largely generate heat? (c) How is this heat distributed through the body?
4. (a) What is the most perfect food? (b) Give name and effect of minerals used as food.
5. Name the different digestive fluids, and state their characteristic effects.
6. Explain the portal circulation.
7. How do plants and animals differ?
8. (a) Draw a diagram of the human ear. (b) Name the different parts and explain how sound is conveyed to the brain.

9. Write briefly of stimulants and narcotics.
10. Describe and give functions of the following: sternum, œsophagus, cilia, villi, epidermis.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. Describe the skeleton and explain uses of the bones.
3. (a) How do we move our eyes? (b) What is the office of the iris? (c) Why are we unable to see when first looking away from a very bright light? (d) Why do we soon recover sight?
4. (a) How is alcohol produced and what are its properties?
   (b) Give its effects upon circulation and digestion.
5. How is perspiration formed and what is its utility?
6. Contrast arteries and veins (a) as to structure of walls, (b) as to interior structure.
7. Give a brief description of the blood, speaking of its constituents and the cause of clotting.
8. What are bacteria and what their relation to human welfare?
9. Define the terms pylorus, pericardium, cranium, dura mater, periosteum.
10. Name and briefly describe the organs of digestion.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Describe the skeleton and explain uses of the bones.
3. Locate the sebaceous glands and mention their use.
4. How is the nervous system affected by stimulants and narcotics?
5. Explain the process of bread-making.
6. Name and locate each of the three long bones of the leg.
7. By what means does the eye accommodate itself to seeing objects at different distances?
*8. Make three statements regarding care of the body, to be used as a blackboard exercise for young children.
9. Define the terms pylorus, pericardium, cranium, dura mater, periosteum.
10. Write briefly on digestion.

READING.

ALL GRADES.

NOTE:—Answers to these four questions should be written and count for 40 credits, 60 being given on the oral test.

1. (a) What is good diction? (b) How may it be acquired?
*2. Describe the *plaintive* tone and tell when it should be used.
3. How may word-analysis become a hindrance rather than help to the reading class?
4. Does drill on the *slides* of the voice affect the quantity or quality of tone? Explain.

ORAL TEST.

I.

DREAD, HORROR, AND DESPAIR.

[From "Macbeth."—*Shakespeare.*]

Macb. Methought I heard a voice cry, 'Sleep no more!
Macbeth does murder sleep'—the innocent sleep—
Sleep that knits up the ravel'd sleeve of care,
The death of each day's life, sore labor's bath,
Balm of hurt minds, great nature's second course,
Chief nourisher in life's feast:—
Lady M. What do you mean?
Macb. Still it cried, 'Sleep no more! to all the house:
Glamis hath murdered sleep: and therefore Cawdor
Shall sleep no more—Macbeth shall sleep no more!'

II.

Horror and Fear.

[From "Macbeth."—*Shakespeare.*]

"Now o'er the one-half world
Nature seems dead; and wicked dreams abuse
The curtained sleep; now witchcraft celebrates
Pale Hecate's offerings; and withered murder,
Alarmed by his sentinel, the wolf,
Whose howl's his watch, thus with his stealthy pace,
Towards his design
Moves like a ghost.—Thou sure and firm-set earth!
Hear not my steps, which way they walk; for fear
The very stones prate of my whereabout,
And take the present horror from the time.
Which now suits with it."

III.

Tranquil and Descriptive Thought.

[From "Memory."—*Jas. A. Garfield.*]

'Tis beauteous night; the stars look brightly down
Upon the earth, decked in her robe of snow.
No light gleams at the windows, save my own,
Which gives its cheer to midnight and to me.
And now, with noiseless step, sweet memory comes
And leads me gently through her twilight realms.
What poet's tuneful lyre has ever sung,
Or delicatest pencil e'er portrayed
The enchanted, shadowy land where memory dwells?
It has its valleys, cheerless, lone, and drear,
Dark-shaded by the mournful cypress tree;
And yet its sunlit mountain tops are bathed
In Heaven's own blue. Upon its craggy cliffs,
Robed in the dreamy light of distant years,
Are clustered joys serene of other days.
Upon its gently sloping hill-sides bend
The weeping willows o'er the sacred dust
Of dear departed ones; yet in that land,
Where'er our footsteps fall upon the shore,
They that were sleeping rise from out the dust
Of death's long, silent years, and round us stand
As erst they did before the prison tomb
Received their clay within its voiceless halls.
The path of youth winds down through many a vale,
And on the brink of many a dread abyss,
From out whose darkness comes no ray of light,
Save that a phantom dances o'er the gulf
And beckons toward the verge. Again the path
Leads o'er the summit where the sunbeams fall;
And thus in light and shade, sunshine and gloom,
Sorrow and joy, this life-path leads along.

To Examiner:—The following questions may help to expedite the oral test:

1. What tone is required for the first selection?
2. What oft-quoted saying does it contain?
3. What can you say of Macbeth?
4. Show that *sleep* is personified.
5. To what does *it* refer, line 8?
6. What tone is needed in the second selection that is not required in the first?
7. Explain the elision found in the sixth line of the second extract.
8. Define *prate.*
9. What tone does the third selection require?
10. What figure of speech begins in line 5 of this selection?

11. Can you quote any other reference in literature to the cypress tree?
12. What *land* is meant in line 18?
13. Define *erst*. What adverb is sometimes joined to it?
14. What strong antithesis is expressed in the last eight lines?

SCHOOL LAW.

ALL GRADES.

1. Name the legal steps necessary to form a district out of territory in two or more townships.
2. What disposition is made of the property when a new district is formed out of territory belonging to one or more districts?
3. Who constitute the district board? How may meetings of this board be called?
4. Under what conditions may the district board admit non-resident pupils to the school of the district?
5. How is the township board of school inspectors constituted? How many meetings may be held at the expense of the township?

THEORY AND ART.

ALL GRADES.

1. What aid have you received from the State Manual and Course of Study and the Institute Outlines sent out from the Department of Public Instruction?
2. (a) What books of the Reading Circle list have you read within the past year? (b) Give five ideas gleaned from these books.
3. What is the difference between the science and the art of teaching? In your experience which comes first?
4. "Spare the rod and spoil the child." What do you think of this as a principle in teaching?
5. (a) Distinguish between remembering and recollecting; (b) between judging and reasoning; (c) between feeling and thinking.

NOTE—In future questions on this subject will pay more attention to the work of State Teachers' Reading Circle.

UNITED STATES HISTORY.

FIRST GRADE.

1. General excellence, including neatness, will count for this number.
2. Mention five books, not text-books, useful to teachers of history.
*3. Show briefly the value of biographical study of representative men.
4. What was the importance of the Committees of Correspondence?
5. (a) Why was the Louisiana purchase so important?
   (b) By what authority was it purchased? Explain.
6. Show clearly the steps that led to the panic of '37.
7. What was the real cause of the Civil War? Briefly explain.
*8. In the Civil War, why did the North desire to gain control of the Mississippi?
9. What was the importance of the George Rogers Clarke expedition to the Northwest?
10. Write a paragraph of at least fifty words on the progress of the New South.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. Tell what inventions were aids to the discovery of the New World, and why.
3. Why were the English more successful in colonization than other nations?
*4. What is your opinion of memorizing dates?
5. What was the importance of the New England Confederacy? Give date of same.
*6. Show the importance of the invention of the cotton-gin.
7. Write twenty lines on the life of Henry Clay.
8. In harmony with what policy did the United States interfere with England in the Venezuelan question?

9. What was the Dingley bill and under whose administration was it passed?
10. Make a statement concerning any five of the following:

Dewey.	Kruger.
Mrs. Gladstone.	The Ice Trust.
Affairs in China.	Cape Nome.
General Roberts.	The Cuban Scandals.
W. A. Clark.	German Meat Bill.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Tell what inventions were aids to the discovery of the New World, and why.
3. Why were the English more successful in colonization than other nations?
4. Mention ten names prominent among the early explorers or discoverers of the New World.
5. Tell the story of the Pilgrims as to a class.
6. Show the importance of the invention of the cotton-gin.
7. Write twenty lines on the life of Henry Clay.
8. Mention some places of historic interest in the eastern part of the United States, telling why noted.
9. By what authority did Lincoln issue the Emancipation Proclamation?
10. Make a statement concerning any five of the following:

Dewey.	Kruger.
Mrs. Gladstone.	The Ice Trust.
Affairs in China.	Cape Nome.
General Roberts.	The Cuban Scandals.
W. A. Clark.	German Meat Bill.

V. QUESTIONS PREPARED BY THE SUPERINTENDENT OF PUBLIC INSTRUCTION FOR THE REGULAR EXAMINATION, OCTOBER, 1900.

ALGEBRA.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. (a) Distinguish between the algebraic and arithmetical use of the signs *plus* and *minus*.
   (b) Illustrate use of following signs: inequality, aggregation, continuation, infinity, double sign of root.
3. (a) Reduce to lowest terms: $\frac{a^3-7a^2+16a-12}{3a^3-14a^2+16a}$.
   (b) Factor (x^6+y^6) and $x^2-(a-b)^2$.
4. (a) Indicate the product of a times b *plus* c in four ways.
   (b) Illustrate the reciprocal of x, and x equal to unity.
5. Find value of x by two methods of elimination: $\left\{\begin{array}{l} 4x+3y=22 \\ 5x-7y=6 \end{array}\right.$
6. Subtract $2\sqrt{8}$ from $9\sqrt{32}$.
7. $9x+4+2x\sqrt{9x+4}=15x^2$. Find two values for x.
8. Divide 100 into two such parts that their square roots shall be to each other as 3 to 4.
9. A sum of money at simple interest amounted to a dollars in m years and b dollars in n years. Find the rate and number of dollars.
10. The length of a certain rectangle is 5 ft. more than its breadth. If both length and breadth are increased 1 ft., the area will be increased 22 sq. ft. Find the dimensions of the rectangle.

ARITHMETIC.

SECOND GRADE.

1. An estate was divided between A, B and C, A receiving $\frac{5}{12}$ and B twice as much as C, who received 56 acres less than A. How large was the estate?
2. A miller takes $\frac{1}{8}$ for toll and there is a waste of $\frac{1}{20}$ in grinding, how many bushels of wheat must be taken to the mill to obtain 200 pounds of flour, if a bushel of wheat makes 40 pounds?
3. My agent sold some corn, and after taking out his commission invested the proceeds again in corn at the same price. His total commission at 3% was $12. What did he receive for the corn?
4. In measuring a pile of wood 40 ft. long containing 7½ cords, it was discovered to be a foot higher at one end than at the other. How high at each end?
5. Draw a note for $1,200, running long enough at a certain rate to yield $25 interest. (5 credits for form of note, 5 credits for correct solution.)

THIRD GRADE, CLASS B.

1. Write in three ways a number containing two full periods.
2. If a body falls 16 ft. the first second, 48 the second, 80 the third, and so on constantly increasing, how far will it fall in 7 seconds? State the relations.
3. If $a=2$, $b=5$, $c=8$, $d=10$, what is the value of $\frac{ab+cd}{2c+d-5}$?
4. How many 20-dollar gold pieces can be made from a pound of pure gold, if there are 25⅘ grains of gold in a standard dollar, $\frac{1}{10}$ of which is alloy?
5. What is the area of a triangle whose sides are 9, 12, and 15, respectively?

CLASS A.

1. Write in three ways a number containing two full periods.
2. If a body falls 16 ft. the first second, 48 the second, 80 the third, and so on constantly increasing, how far will it fall in 7 seconds? State the relations.
3. If $a=2$, $b=5$, $c=8$, $d=10$, what is the value of $\frac{ab+cd}{2c+d-5}$?

*4. Outline a lesson in numbers for third grade.
*5. Discuss the essential differences in number work between primary, intermediate and higher grades.

MENTAL ARITHMETIC.

ALL GRADES.

NOTE.—A member of the Examining Board will examine candidates in classes of twenty-five or less, testing quickness to grasp the salient features of a problem, accuracy and rapidity of work, clearness and simplicity of analysis. In the righthand margin applicants will write *as many answers to the first twenty questions as possible in fifteen minutes;* one half per cent for each answer and one per cent additional for each *correct* one, is given in this part of the examination.

1. Give (a) product, (b) sum, (c) difference of 18 and 20.
2. Add 12½, 6¼, 5½, 18¼.
3. Find the value of 64 books at 12½c each.
4. Bought 2 reams of paper for $5, and sold it at 20c a quire. What per cent did I gain?
5. Bought a bushel of cherries at $1.50, and sold them at 8c a quart. How much did I gain?
6. Divide 6 by ⅓.
7. How many times must I add ¼ to itself to make 10?
8. How much will 80 acres of land cost at $12½ an acre?
9. Take 12½ from 16¼.
10. Add 5⅘ to 14⅗.
11. Buy at ½c and sell at ¾c. What is the gain or loss per cent?
12. What per cent of 2½ bushels is 2½ pecks?
13. Sell at 1½c, gaining ¾c. What is the gain per cent?
14. What is the rate of interest when $160 yields $3.20 in 3 mos.?

15. In what time will $180 yield $12 interest at 5%?
16. What is the amount of $120 for 6 mos. at 6%?
17. If a circular field is worth $125, what is the value of one with twice the diameter?
18. What is one side of a square field containing 10 acres?
19. What would it cost to build a fence around the above field at $1.25 a rod?
20. How many trees would it take to increase the size of a square orchard containing 1,600 trees, by 2 rows on each side?

N. B.—Applicants may write *full analysis* of four problems selected by the examiner from the next six.

21. Explain by analysis $\frac{2}{3} \div \frac{3}{4}$.
22. $\frac{1}{4}$ of a certain number is 132 more than $\frac{1}{6}$ of it. What is the number?
23. A and B can do a piece of work in 12 days. A can do $\frac{3}{4}$ as much as B. How long for A to do the work?
24. How many sq. in. of paper will be required to cover a cube containing 27 cu. in.?
25. A owning $\frac{2}{3}$ of a farm sold $\frac{2}{3}$ of his share for $1,800. What was the value of the farm at the same rate?
26. A boy bought apples at the rate of 6 for 5 cents and sold them at the rate of 5 for 6 cents, gaining 22 cents. How many did he buy?

BOTANY.

SECOND GRADE.

1. (a) From what sources does the plant world derive its food?
   (b) What office in the economy of nature is performed by plants?
2. Why is a frosted plant usually restored to its normal condition by being slowly warmed?
3. How may germination be best observed? What is your method for showing this to a class?
4. What are the characteristic differences between mosses and ferns?
5. Define spore, stomata, node, bract, stolon.
6. Define venation, naming its different modes.
7. Make an outline to show the composition and texture of fruit. (Use brace.)
8. What is a tunicated bud? Name a familiar example.
9. (a) What is a nut?
   (b) What part of the acorn is the "cup"?
10. What can you say of the longevity of seeds?

CIVIL GOVERNMENT.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. (a) Why should a bill have three separate readings?
   (b) Why is the report of a committee generally adopted by the body?
3. (a) When two states disagree, to what courts do they appeal for a settlement?
   (b) What is meant by requisition papers?
4. Why does the state prosecute offenses, instead of leaving this duty to private persons?
5. (a) What officer issues passports to our citizens?
   (b) Of what use are such passports?
6. (a) Why should delegates from the territories not have the privilege of voting in Congress?
   (b) When did Michigan cease to be a territory?
7. What do you understand by the Australian ballot system?
8. Why is intelligence more necessary under a republican form of government than under other forms?
9. Speak briefly of the Republican Convention at Philadelphia.
10. What is considered treason against the United States?

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. When two states disagree, to what courts do they appeal?
3. (a) How many senators now in Congress?
   (b) Give names of the United States senators from Michigan.
4. (a) Why is the state legislature composed of two houses?
   (b) How often does the legislature of Michigan meet?
5. Tell who appoints the justice of a federal court.
6. Why would it not be safe to allow the states to treat with each other or with foreign powers?
7. How does a territory become a state?
8. Distinguish between citizens and electors.
9. Speak briefly of the formality of law-making.
10. Mention some duties of the Commissioner of the State Land Office.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. When two states disagree, to what courts do they appeal?
3. (a) How many senators now in Congress?
   (b) Give names of the United States senators from Michigan.
4. (a) Why is the state legislature composed of two houses?
   (b) How often does the legislature of Michigan meet?
5. Tell who appoints the justice of a federal court.
6. Name the elections held in Michigan.
7. How does strict obedience in school aid in making good citizens?
8. (a) What do you understand by civil service reform?
   (b) During whose administration passed?
9. Speak briefly of the formality of law-making.
10. What is the work of the census bureau?

GENERAL HISTORY.

SECOND GRADE.

1. Mention five mythological characters and tell what each represents.
2. State the effect of the Punic wars on history.
3. For what are the following noted: Pericles, Cleopatra, Leonidas, Hannibal, Miltiades?
4. Speak briefly of the temporal power of the popes.
5. Give a brief account of the struggle in which Alsace and Lorraine fell into the hands of Germany.
6. Mention at least five dates you consider important in history work, giving reasons for your selection.
7. Tell in what struggle Kossuth was prominent and what he accomplished.
8. What is the cause of the trouble between Japan and Russia?
9. (a) Briefly show the state of society in France which gradually incited the people to revolution. (b) What form of government has France to-day?
10. What is the attitude of the United States in China?

GEOGRAPHY.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. Explain the action of water in changing land features.
3. Briefly describe the climate of Alaska and Labrador, telling what affects the climate of each.
*4. Mention some artificial methods which have been applied to increase the commercial value of rivers and to reclaim inundated lands.
*5. Locate the important coal sections of the United States. Explain the relation of coal mining to other industries.
6. Discuss briefly the motions of the earth and state the results of same.

7. Account for land and sea breezes.
8. Trace at least two routes of travel from the Atlantic seaboard to the Pacific coast.
9. Name in order the bodies of water through which a vessel would pass in sailing from Liverpool to Calcutta.
10. Show that the "New South" is rapidly increasing in manufactures.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. State the effect of mountain ranges upon climate.
3. Mention some European nations that have established foreign colonies, telling where founded and their industrial condition.
4. Explain, as to a class, the cause of day and night.
5. Make a brief outline for the study of Canada.
6. Name five exports of the United States, telling from what sections sent and to what countries.
7. Locate the British possessions, stating the value of each to England.
8. Mention some reference works on geography which you have read during the year.
9. Draw a rude map of the United States and divide it into industrial sections, briefly accounting for such division.
10. What states are respectively north of Alabama, west of Minnesota, east of California, south of Wyoming, north of Missouri? Mention some interesting fact in connection with each required state.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. Write a model lesson on *rain*.
3. Mention some European nations that have established foreign colonies, briefly stating where founded and their industrial condition.
4. Explain, as to a class, the cause of day and night.
5. Locate and state an interesting fact in connection with each of these: Rome, Geneva, Hamburg, Constantinople, West Point, Galveston, Bombay, Manila, Havana, St. Louis.
6. What importance do you attach to the use of the sand table in the school room?
7. Locate the British possessions, stating the value of each to England.
8. Mention some reference works on geography which you have read during the year.
9. Draw a rude map of the United States and divide it into industrial sections, briefly accounting for such division.
10. Describe a real or imaginary trip across Michigan, starting from Detroit.

GRAMMAR.

SECOND GRADE.

NOTE.—Capitalization, punctuation, paragraphing, and grammatical construction should be carefully noted in marking the last question.

1. General excellence, including neatness, will count for this number.
2. Define etymology. Why is the *definition* said to be the "bed-rock of etymology"?
3. (a) Does the *commencement* of essay writing accompany or follow language lessons? (b) About how advanced should a pupil be before attempting descriptive sketches?
4. How does the continual use of the diagram affect the pupil's analytical insight? Explain.
5. Describe two radically different methods of treating verbals, citing at least one authority for each.
6. Illustrate the use of *but* as three different parts of speech.
7. Conjugate the verb *teach* negatively, in the imperfect potential passive.
8. Analyze without diagram:

"Breathes there a man with soul so dead
Who never to himself hath said,
This is my own, my native land?"

9 and 10. Write a brief, concise, symmetrical essay on any one of the following subjects:
Our New Possessions.
Manual Training in the Public Schools.
The Educational Trend.
Value of Travel.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. (a) Construct a simple sentence with compound predicate, and expand into compound complex sentence.
*(b) Write a sentence that may be abridged by use of the infinitive. Perform the abridgment.
3. Give sentences to illustrate the use of *that* as adjective, conjunction, and relative pronoun.
4. (a) Illustrate the use of *teach* in the first, singular, imperfect, potential.
(b) Write a sentence containing an impersonal verb.
*5. Construe italicised words in the following:
For us to know our faults is *profitable.*
6. Make all necessary corrections:
Was it me?
Can I help you?
Neither the man or woman were killed.
I never thought of its being him.
Let each pupil keep their seats.
*7. Write a sentence that shall require the use of comma, semi-colon, colon, and apostrophe.
*8. What are your chief sources of supply for language work?
9 and 10. Write a brief, concise, symmetrical essay on any one of the following subjects:
Our New Possessions.
Manual Training in the Public Schools.
The Educational Trend.
Value of Travel.

CLASS A.

1. General excellence, including neatness, will count for this number.
*2. (a) Write a specimen phrase for the opening and closing of a letter of friendship.
(b) Show how to address envelope.
3. Give sentences to illustrate the use of *that* as adjective, conjunction, and relative pronoun.
4. Illustrate the use of *teach* in the first, singular, imperfect, potential.
*5. In what grades should reading and language go hand in hand?
6. Make necessary corrections:
Was it me?
Can I help you?
Neither the man or woman were killed.
I never thought of its being him.
Let each pupil keep their seats.
*7. Write a sentence that shall require the use of comma, semi-colon, colon, and apostrophe.
*8. What are your chief sources of supply for language work?
9 and 10. Write a brief, concise, symmetrical essay on any one of the following subjects:
Our New Possessions.
Manual Training in the Public Schools.
The Educational Trend.
Value of Travel.

ORTHOGRAPHY.

ALL GRADES.

NOTE.—These questions count for 50% and the list of words 50%.

1. Give and illustrate three rules for spelling.
2. What is diacritical spelling? Illustrate by five words.
*3. Outline a list of words to be built on each of the following: at, it, an, in.
4. Use both a consonant and a vowel digraph and trigraph.
5. Which makes the more accurate spellers, oral or written spelling? Explain.

N. B.—Starred questions in this examination refer to some information emphasized either in the Institute Outline or the State Manual and Course of Study.

LIST OF WORDS.

ALL GRADES.

1. manacle
2. fanatic
3. marshal
4. material
5. maim
6. business
7. menace
8. menagerie
9. mercenary
10. missile
11. campaign
12. frenzy
13. mercurial
14. placid
15. plagiarism
16. Iloilo
17. porcelain
18. reciprocity
19. scissors
20. European
21. merit
22. pommel
23. model
24. misspell
25. accurate.

PENMANSHIP.

ALL GRADES.

1. Outline your method for conducting a writing exercise.
2. What are the essentials of good blackboard writing?
3. What benefits do pupils receive from writing on the blackboard?
4. Make the Arabic figures.

PHYSICS.

SECOND GRADE.

1. Define fluid, dynamics, momentum, specific gravity, and natural law.
2. A cake of ice floats in water of the same temperature. Speak of the specific and latent heat of each.
3. Why is not all the water in a boiler changed to steam the instant it reaches boiling point?
4. How much work can a two horse-power do in an hour?
5. Make a diagram of the force-pump.
6. A piano string vibrates 150 times per second. Other conditions remaining the same, how often will it vibrate if made half as long? If made twice as heavy?
7. Represent by diagram the classes of levers.
8. Show by diagram the focus of rays of light falling on a concave mirror if the source of light is beyond the center of curvature of mirror?
9. Define any five general properties of matter.
10. (a) In what two ways is electricity generated?
    (b) What is the unit of electrical resistance? Of electrical current?

PHYSIOLOGY.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. (a) State what you understand by nutrition. (b) How is it carried on?
3. Describe the process whereby the gastric juice is formed, and give its properties and use.
4. Explain difference between structure and office of cartilage and ligaments.
5. Describe some organ of special sense.
6. Describe the effect on digestion of alcohol and tobacco.
7. What are the functions of cerebrum and cerebellum?
8. By diagram show the use of the crystalline lens.
9. In what way does the oxygen of the air reach the blood?
10. Name the heat-producing element in beans, bread, bacon, potatoes, and wheat.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. What are the great divisions of the nervous system, and how many pairs of nerves in each?
3. How should bedding that is too valuable to be burned, be treated after use by a person sick with a contagious disease?
4. How is voice produced?
5. Name the secretions of the alimentary canal and the points at which they occur.
6. Why is nitrogenous food a necessity?
7. Speak of the capacity of the lungs and the time required for renovating the air in them.
8. What are the characteristics of the alcoholic appetite as contrasted with the appetite for food?
9. State some of the evil effects of having school desks too high for children.
10. Mention four means provided by nature for the protection of the eye.

CLASS A.

1. General excellence, including neatness, will count for this number.
2. (a) What is the proper temperature for a school room? (b) How does improper temperature affect the pupils?
3. How should bedding that is too valuable to be burned, be treated after use by a person sick with a contagious disease?
4. What responsibility rests upon the primary teacher as to the voice of pupils?
5. What are some of the suggestions you would give to young pupils regarding eating, bathing, exercise, and sleeping-rooms?
6. If pupils are obliged to read figures and writing from the blackboard, what should govern the arrangement of such work?
7. Describe the kidneys and their office.
8. What means would you employ to impress upon the minds of pupils the dangers arising from the use of alcoholic stimulants and tobacco?
9. State some of the evil effects of having school desks too high for children.
10. Mention four means provided by nature for the protection of the eye.

READING.

ALL GRADES.

NOTE.—Answers to these four questions should be written and count for forty credits, sixty being given on the oral test.

1. What quality of tone is most used in reading and speaking?
2. What faults are to be guarded against in reading poetry?
3. Discuss the work of the first two grades as given in the State Manual and Course of Study.
4. What is "expression" in reading, and how would you assist pupils to acquire it?

ORAL TEST.

I.

Here rest the great and good,—here they repose
After their generous toil. A sacred band,
They take their sleep together, while the year
Comes with its early flowers to deck their graves,
And gathers them again, as winter frowns.
Theirs is no vulgar sepulchre—green sods
Are all their monument; and yet it tells
A nobler history than pillared piles,
Or the eternal pyramids. They need
No statue nor inscription to reveal
Their greatness. It is round them; and the joy
With which their children tread the hallowed ground
That holds their venerated bones, the peace
That smiles on all they fought for; and the wealth
That clothes the land they rescued—these, though mute,
As feeling ever is when deepest—these
Are monuments more lasting than the fanes
Reared to the kings and demi-gods of old.

—*James Gates Percival.*

II.

What a fascination there is in really good reading! What a power it gives one! In the hospital, in the chamber of the invalid, in the nursery, in the domestic and in the social circle, among chosen friends and companions how it enables you to minister to the amusement, the comfort, the pleasure of dear ones as no other art or accomplishment can. No instrument of man's devising can reach the heart as does that most wonderful instrument, the human voice. It is God's special gift and endowment to his chosen creatures. Fold it not away in a napkin.

—*John S. Hart.*

III.

Gentlemen have said that it was I who inspired the Hungarian people. I cannot accept the praise. No, it was not I who inspired the Hungarian people. It was the Hungarian people who inspired me. Whatever I have thought—and still think, whatever I felt—and still feel, is but the pulsation of that heart which in the breast of my people beats! The glory of battle is for the historic leaders. Theirs are the laurels of immortality. And yet, in encountering the danger, they knew that, alive or dead, their names would on the lips of the people forever live. How different the fortune—how nobler, how purer the heroism—of those children of the people, who went forth freely to meet death in their country's cause, knowing that where they fell they would lie, undistinguished and unknown,—their names unhonored and unsung! Animated, nevertheless, by the love of freedom and fatherland, they went forth calmly, singing their national anthems, till, rushing upon the batteries whose cross-fire vomited upon them death and destruction, they took them without firing a shot—those who fell falling with the shout, "Hurrah for Hungary!" And so they died by thousands—the unnamed demi-gods! Such is the people of Hungary. Still it is said, it is I who have inspired them. No!—a thousand times, no! It is they who have inspired me.

—*Louis Kossuth.*

SCHOOL LAW.

ALL GRADES.

1. (a) Give the qualifications for eligibility to the office of commissioner of schools.
   (b) For member of board of county examiners.
2. Under what conditions may county certificates be renewed without examination?

3. Discuss briefly the legal relations existing between the State Normal College and the other Normal Schools of Michigan.
4. Give the duties of the truant officer in relation to compulsory attendance at school.
5. Give the steps necessary to the organization of a township district in the Upper Peninsula of Michigan.

THEORY AND ART.

ALL GRADES.

1. (a) What do you understand to be the purpose of a course of study?
   (b) In what ways has the State Manual and Course of Study been helpful to you?
2. (a) What is meant by the term "self-activity"? (b) What is the opposite characteristic, and how may it be guarded against among pupils?
3. What do you consider as the true aim of school government?
4. (a) What is habit? (b) Name some habits which teachers should especially endeavor to inculcate in school.
5. What is the underlying thought of the kindergarten, and how does it differ from the primary school?

UNITED STATES HISTORY.

SECOND GRADE.

1. General excellence, including neatness, will count for this number.
2. What reasons can you give why some study of general history should precede the study of American history?
3. What was the outcome of the "Boston Tea Party"?
*4. What consideration do you give maps in your history work?
5. Why were the English anxious to gain control of New Netherlands?
6. Why was the South so bitterly opposed to the election of Lincoln?
7. Show that England and France were deeply interested in our civil war.
8. Show the influence of the public lands upon our national progress.
9. Mention five inventions which have revolutionized industrial conditions, and name the inventor of each.
10. Make a definite statement concerning the following:
    Galveston Hurricane.
    The Anthracite Coal Strike.
    John Ingalls.
    King Humbert.
    Oberammergau.

THIRD GRADE, CLASS B.

1. General excellence, including neatness, will count for this number.
2. What two subjects does the State Manual and Course of Study suggest as preparatory work for American history?
*3. Briefly compare the constitutions of the Confederation and the United States.
*4. What effect had the war of 1812 on the growth of manufactures in the United States?
5. What was the effect of the Dred Scott Decision?
6. Write a short biography of General Robert Lee.
*7. What was the significance of the "Waterloo of the South"?
8. Give a brief description of the South when Johnson became President.
9. Mention five questions of the day.
10. What effect have the Pacific railroads had upon the growth of the West?

CLASS A.

1. General excellence, including neatness, will count for this number.
2. What two subjects does the State Manual and Course of Study suggest as preparatory work for American history?
3. What part did the colonists take in the French and Indian war, and what influence did this war have upon them?
4. Tell the story of Paul Revere.
*5. Which do you regard as the literary era of the United States? Mention five authors belonging to this era.
6. Write a short biography of General Robert Lee.
*7. Speak briefly of negro suffrage and carpet-bag rule in the South.
8. Give a brief description of the South when Johnson became President.
9. Mention five questions of the day.
10. What cause had the United States to champion the Cuban troubles?

SUPREME COURT DECISIONS

ON MATTERS OF

EDUCATIONAL INTEREST

NOTE—Between the time of the publication of our last report and Dec. 1, 1900, no decisions on educational matters were made by the Supreme Court of Michigan.

STATE INSTITUTIONS.

BY ACT OF LEGISLATURE.

EDUCATIONAL.

STATE AGRICULTURAL COLLEGE.

LANSING—ESTABLISHED IN 1855.

It is the design of this institution to afford thorough instruction in agriculture and the natural sciences connected therewith. The curriculum also includes a literary course and instruction in household and industrial arts. The college farm, including 676 acres, is located three miles east of Michigan's Capital City, the buildings numbering 55 and total valuation of property being nearly $500,000. During the past year 627 students were enrolled with 38 instructors.

Controlled by the State Board of Agriculture.—Thos. F. Marston, President, Bay City; Franklin Wells, Constantine; Charles J. Monroe, South Haven; Edward P. Allen, Ypsilanti; Henry F. Marsh, Allegan; L. Whitney Watkins, Manchester.

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BELLE C. CROWE, Instructor in Domestic Science.
THOMAS GUNSON, Foreman of Greenhouse.
W. S. LEONARD, Foreman of Machine Shop.
W. R. BRADFORD, Foreman of Wood Shop.
CHACE NEWMAN, Assistant Foreman of Wood Shop.
E. C. BAKER, Foreman of Foundry.
CHARLES A. WOOD, Foreman of Gardens.
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F. L. NEWELL, Engineer.

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PRESIDENT OF SYSTEM, Albert Leonard, Ph. D., Ypsilanti.

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STATE NORMAL COLLEGE.

YPSILANTI—ESTABLISHED 1849.

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ESTELLE DOWNING, Instructor in English.
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ALICE R. ROBSON, Ph. B., Assistant in French and German.
BENJAMIN L. D'OOGE, A. M., Professor of Greek and Latin. (Absent on leave.)
DUANE REED STUART, A. B., Acting Professor of Greek and Latin.
HELEN B. MUIR, Assistant in Greek and Latin.
SERENO B. CLARK, Instructor in Greek and Latin.
EDWIN A. STRONG, A. M., Professor of Physical Science.
FRED R. GORTON, Asistant in Physical Science.
R. W. PEET, M. S., Instructor in Physical Science.
WILL H. SHERZER, M. S., Professor of Natural Science.
ERNEST B. HOAG, Assistant in Natural Science.
ANNA A. SCHRYVER, Assistant in Botany.
JESSIE PHELPS, B. S., Instructor in Natural Sciences.
FOREST B. H. BROWN, Instructor in Natural Sciences.
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ISABELLA STICKNEY, Instructor in Drawing.
BERTHA C. HULL, Assistant in Drawing.
R. D. CALKINS, Assistant in Geography.

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GERTRUDE E. WOODARD, Assistant Librarian.
FRANCIS L. D. GOODRICH, Assistant Librarian.
FRANCES L. STEWART, Clerk.
AGNES MORSE, Stenographer.

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DIMON H. ROBERTS, A. M., Superintendent.
HESTER P. STOWE, Kindergartner.
MARGARET E. WISE, Critic Teacher, 1st grade.
ADELLA JACKSON, Critic Teacher, 2d grade.
L. ZELLA STARKES, Critic Teacher, 3d grade.
HARRIET M. PLUNKETT, Critic Teacher, 4th grade.
MARY L. BERKEY, Critic Teacher, 5th grade.
ABBIE ROE, Critic Teacher, 6th grade.
EDNA H. BARR, Ph. B., Critic Teacher, 7th and 8th grades.
JULIA MARTIN, Assistant Teacher, 7th and 8th grades.

CENTRAL STATE NORMAL.

MOUNT PLEASANT—ESTABLISHED IN 1895.

FACULTY AND OFFICERS.

CHARLES T. GRAWN, M. Pd., Principal, Professor of Psychology and Pedagogy.
LUCY ADELLA SLOAN, M. S., Professor of English Language and Literature.
RACHEL TATE, Assistant in English.
FRED L. KEELER, B. S., Professor of Physics and Chemistry.
WILLIAM BELLIS, Pd. B., Professor of Mathematics.
CHARLES T. TAMBLING, A. B., Assistant in Mathematics.
CARL E. PRAY, B. L., Professor of History and Physics.
ELIZABETH WIGHTMAN, Professor of Geography and Drawing.
ANNA M. BARNARD, A. B., Professor of Latin and German.
MAE WOLDT, Professor of Biology.
T. BATH GLASSON, Director of Conservatory.
EVELYN McALLASTER, Assistant in Music.
ALBERT J. ARCHER, Professor of Penmanship and Bookkeeping.

TRAINING SCHOOL.

GEORGE W. LOOMIS, M. S., Superintendent.
MARGARET WAKELEE, Kindergartner.
FRANCES BURT, Critic Teacher, 1st grade.
LOIS WILSON, Critic Teacher, 2d grade.
IRENE GETTY, Critic Teacher, 3d grade.
CARRIE SIMPSON, Critic Teacher, 4th grade.
MARTA WILSEY, Critic Teacher, 5th grade.
GERTRUDE ROBINSON, Critic Teacher, 6th grade.
GERTRUDE DOBSON, Critic Teacher, 7th grade.
MARY J. JORDAN, Librarian.
ESTELLA D. WHITTEN, Stenographer.

NORTHERN STATE NORMAL.

MARQUETTE—ESTABLISHED IN 1899.

FACULTY.

DWIGHT B. WALDO, A. M., Principal, Professor of History and Civics
LEWIS F. ANDERSON, A. B., Professor of Psychology and Pedagogy.
WM. McCRACKEN, A. B., Professor of Science.
FLORA E. HILL, B. L., Preceptress, Professor of English.
MARTHA B. ACKERMAN, Professor of Geography and Drawing
SOPHIA LINTON, Professor of Music.
R. CLYDE FORD, Ph. D., Professor of Modern Languages.
KATHARINE KELLAS, Ph. B., Assistant in History.
J. B. FAUGHT, Ph. D., Professor of Mathematics.
M. S. WALDO, Librarian.

TRAINING SCHOOL.

LEWIS F. ANDERSON, A. B., Superintendent.
FLORA MOWBRAY, Kindergartner.
A. ESTHER WILSON, Critic Teacher, 1st grade.
LOLA M. HARMON, Ph. B., Critic Teacher, 2d grade.
LILLIAN HADLEY, Ph. B., Critic Teacher, 3d and 4th grades.
KATHERINE M. KELLAS, Critic Teacher, 5th and 6th grades.

MICHIGAN COLLEGE OF MINES.

HOUGHTON—ESTABLISHED IN 1885.

The object of this institution is to turn out graduates who can take an active part in the development of the mineral wealth of the State. Besides being one of the foremost schools of mining engineering in the country, it enjoys the distinction of being the only one having a full and free elective system. Located at Houghton, Houghton county, in the vicinity of some of the largest mines in the world, operating the most powerful mining machinery known, its students enjoy many advantages of observation furnished through the liberality of these mining companies. Its five buildings and five acres, with the necessary equipment, have an estimated value of $252,655.56. During the last year 122 students were enrolled, with 19 instructors.

Board of Control.—Walter Fitch, President, Beacon; John Monroe Longyear, Marquette; Alfred Kidder, Marquette; William Kelley, Vulcan; Elbridge G. Brown, Calumet; Horatio Stewart Goodell, Houghton.

FRED WALTER McNAIR, B. S., President.
ALLEN F. REES, Secretary, Houghton.

FACULTY AND OFFICERS.

FRED WALTER McNAIR, B. S., Professor of Physics and Mechanics.
GEORGE AUGUSTUS KOENIG, M. E., A. M., Ph. D., Professor of Chemistry and Metallurgy.
FREDERICK WILLIAM SPERR, E. M., Professor of Civil and Mining Engineering.
OZNI PORTER HOOD, M. S., M. E., Professor of Mechanical and Electrical Engineering.
ARTHUR EDMUND SEAMAN, S. B., Professor of Mineralogy and Geology.
MRS. FRANCES HANNA SCOTT, Librarian and Secretary.
JAMES FISHER, E. M., Instructor in Mathematics and Physics.
GEORGE LUTHER CHRISTENSEN, B. S., Instructor in Mechanical Engineering.
NATHAN SANFORD OSBORNE, E. M., Instructor in Mathematics and Physics.
ENOS HARROLD, Instructor in Machine Shop.
EMIL ARTHUR FRANKE, S. B., Instructor in Chemistry and Metallurgy.
SAMUEL WALTER OSGOOD, S. B., Instructor in Petrography and Mineralogy.
HARRY TALMAN MERCER, S. B., E. M., Assistant in Mineralogy, and Honorary Mineralogist, U. S. Commission to Paris Exposition.
WILLARD LAWSON CUMINGS, Instructor in Mineralogy.
FREDERICK WILLIAM O'NEIL, E. M., Assistant in Mechanical Engineering.
CHARLES WARD BOTSFORD, Assistant in Civil and Mining Engineering.
CHARLES DUVAL HOHL, Assistant in Physics.
RALPH CLARK WORKS, Assistant in Chemistry.
HENRY AUGUSTUS COLLIN, Assistant in Chemistry.
HENRY GIBBS, Purchasing Agent and Supply Clerk.
MISS MAY D. HOAR, Stenographer and Typewriter.
ROY WARD, Engineer.
MAXIME MORIN, Carpenter.
FREDERICK CHAS. STRASSER, Janitor.
ARTHUR BOGAN, Janitor of Chemical Laboratories.

UNIVERSITY OF MICHIGAN.

ANN ARBOR—ESTABLISHED IN 1837.

A description of this great educational institution is scarcely necessary, since its reputation is world-wide. With its 64 acres, 21 buildings, and superior equipment in every department, its total valuation is somewhat more than two million dollars. The collegiate staff consists of 138 professors and instructors; and more than 700 graduates are annually sent out from a total enrollment of over 3,400.

Board of Regents.—Henry S. Dean, Ann Arbor; Herman Kiefer, Detroit; Frank W. Fletcher, Alpena; Roger W. Butterfield, Grand Rapids; George A. Farr, Grand Haven; William J. Cocker, Adrian; Charles D. Lawton, Lawton; Eli R. Sutton, Detroit.

JAMES B. ANGELL, LL. D., President.
JAMES H. WADE, Secretary.

FACULTIES AND OFFICERS.

The names of professors (including librarian), junior professors, assistant profe · and other officers, are placed in their appropriate divisions, according to term of appointment and length of continuous service with present rank.

PERMANENT APPOINTMENTS AND APPOINTMENTS FOR TERMS LONGER THAN ONE YEAR.

ALBERT B. PRESCOTT, M. D., LL. D., Director of the Chemical Laboratory, Professor of Organic Chemistry, and Dean of the School of Pharmacy.
*REV. MARTIN L. D'OOGE, LL. D., Professor of the Greek Language and Literature.
CHARLES E. GREENE, A. M., C. E., Professor of Civil Engineering and Dean of the Department of Engineering.
JONATHAN TAFT, M. D., D. D. S., Professor of the Principles and Practice of Oral Pathology and Surgery, and Dean of the College of Dental Surgery.
WILLIAM H. PETTEE, A. M., Professor of Mineralogy, Economic Geology, and Mining Engineering.
JOHN A. WATLING, D. D. S., Professor of Operative and Clinical Dentistry.
ISAAC N. DEMMON, LL. D., Professor of English and Rhetoric.
WILLIAM H. DORRANCE, D. D. S., Professor of Prosthetic Dentistry and Dental Metallurgy.
ALBERT H. PATTENGILL, A. M., Professor of Greek.
MORTIMER E. COOLEY, M. E., Professor of Mechanical Engineering.
WILLIAM J. HERDMAN, M. D., LL. D., Professor of Diseases of the Mind and Nervous System, and Electrotherapeutics.
WOOSTER W. BEMAN, A. M., Professor of Mathematics.
VICTOR C. VAUGHAN, Ph. D., Sc. D., M. D., Professor of Hygiene and Physiological Chemistry, Director of the Hygienic Laboratory, and Dean of the Department of Medicine and Surgery.
CHARLES S. DENISON, M. S., C. E., Professor of Descriptive Geometry, Stereotomy, and Drawing.
*HENRY S. CARHART, LL. D., Professor of Physics and Director of the Physical Laboratory.
RAYMOND C. DAVIS, A. M., Librarian.
VOLNEY M. SPALDING, Ph. D., Professor of Botany.
HENRY C. ADAMS, LL. D., Professor of Political Economy and Finance.
†BURKE A. HINSDALE, LL. D., Professor of the Science and the Art of Teaching.
RICHARD HUDSON, A. M., Professor of History and Dean of the Department of Literature, Science, and the Arts.
BRADLEY M. THOMPSON, M. S., LL. B., Jay Professor of Law.
ALBERT A. STANLEY, A. M., Professor of Music.
FRANCIS W. KELSEY, Ph. D., Professor of the Latin Language and Literature.
JEROME C. KNOWLTON, A. B., LL. B., Marshall Professor of Law.
CHARLES B. NANCREDE, M. D., LL. D., Professor of Surgery and Clinical Surgery in the Department of Medicine and Surgery.
FLEMMING CARROW, M. D., Professor of Ophthalmic and Aural Surgery and Clinical Ophthalmology in the Department of Medicine and Surgery.
OTIS C. JOHNSON, Ph. C., A. M., Professor of Applied Chemistry
PAUL C. FREER, Ph. D., M. D., Professor of General Chemistry and Director of the Laboratory of General Chemistry.
JAMES N. MARTIN, Ph. M., M. D., Bates Professor of Diseases of Women and Children in the Department of Medicine and Surgery.
NELVILLE S. HOFF, D. D. S., Professor of Dental Materia Medica and Dental Mechanism.
GEORGE DOCK, A. M., M. D., Professor of the Theory and Practice of Medicine and Clinical Medicine, and of Pathology, in the Department of Medicine and Surgery.

*Absent on leave. †Deceased.
For statistics see tables in this report.

ANDREW C. McLAUGHLIN, A. M., LL. B., Professor of American History.
JOSEPH B. DAVIS, C. E., Professor of Geodesy and Surveying.
ASAPH HALL, JR., Ph. D., Professor of Astronomy and Director of the Observatory.
ISRAEL C. RUSSELL, C. E., LL. D., Professor of Geology.
WARREN P. LOMBARD, A. B., M. D., Professor of Physiology.
FLOYD R. MECHEM, A. M., Tappan Professor of Law.
JACOB E. REIGHARD, Ph. B., Professor of Zoology and Director of the Zoological Laboratory and the Zoological Museum.
THOMAS C. TRUEBLOOD, A. M., Professor of Elocution and Oratory.
JAMES A. CRAIG, Ph. D., Professor of Semitic Languages and Literature and Hellenistic Greek.
OTTA KIRCHNER, A. M., Professor of Law.
ARTHUR R. CUSHNY, A. M., M. D., Professor of Materia Medica and Therapeutics in the Department of Medicine and Surgery.
JOHN C. ROLFE, Ph. D., Professor of Latin.
J. PLAYFAIR McMURRICH, Ph. D., Professor of Anatomy and Director of the Anatomical Laboratory.
HARRY B. HUTCHINS, LL. D., Professor of Law and Dean of the Department of Law.
THOMAS A. BOGLE, LL. B., Professor of Law in charge of the Practice Court.
WILBERT B. HINSDALE, A. M., M. D., Professor of the Theory and Practice of Medicine and Clinical Medicine, Dean of the Homœopathic Medical College, and Director of the University Hospital (Homœopathic).
OSCAR LESEURE, M. D., Professor of Surgery and Clinical Surgery in the Homœopathic Medical College.
ROYAL S. COPELAND, A. M., M. D., Professor of Ophthalmology, Otology, and Pædology in the Homœopathic Medical College.
ROBERT M. WENLEY, Sc. D., D. Phil., Professor of Philosophy.
ELIZA M. MOSHER, M. D., Professor of Hygiene, and Women's Dean in the Department of Literature, Science, and the Arts.
WILLIS A. DEWEY, M. D., Professor of Materia Medica and Therapeutics in the Homœopathic Medical College.
*GEORGE HEMPL, Ph. D., Professor of English Philology and General Linguistics.
VICTOR H. LANE, C. E., LL. B., Fletcher Professor of Law and Law Librarian.
JAMES H. BREWSTER, Ph. B., LL. B., Professor of Conveyancing.
HORACE L. WILGUS, M. S., Professor of Law.
ELIAS F. JOHNSON, B. S., LL. M., Professor of Law and Secretary of the Faculty of the Department of Law.
CLAUDIUS B. KINYON, M. D., Professor of Obstetrics and Gynœcology in the Homœopathic Medical College.
AARON V. McALVAY, A. B., LL. B., Professor of Law.
FREDERICK G. NOVY, Sc. D., M. D., Junior Professor of Hygiene and Physiological Chemistry.
EDWARD D. CAMPBELL, B. S., Junior Professor of Analytical Chemistry.
FRED M. TAYLOR, Ph. D., Junior Professor of Political Economy and Finance.
FRED N. SCOTT, Ph. D., Junior Professor of Rhetoric.
ALEXANDER ZIWET, C. E., Junior Professor of Mathematics.
GEORGE W. PATTERSON, JR., Ph. D., Junior Professor of Physics.
FREDERICK C. NEWCOMBE, Ph. D., Junior Professor of Botany.
ALLEN S. WHITNEY, A. B., Junior Professor of the Science and the Art of Teaching, and Inspector of Schools.
G. CARL HUBER, M. D., Junior Professor of Anatomy, Director of the Histological Laboratory, and Secretary to the Faculty of the Department of Medicine and Surgery.
JOHN O. REED, Ph. D., Junior Professor of Physics.
ALFRED H. LLOYD, Ph. D., Junior Professor of Philosophy.
PAUL R. DE PONT, A. B., B. S., Assistant Professor of French, Registrar of the Department of Literature, Science, and the Arts, and Registrar of the Department of Engineering.
JOSEPH H. DRAKE, A. B., Assistant Professor of Latin.
ALVISO B. STEVENS, Ph. C., Assistant Professor of Pharmacy.
†DEAN C. WORCESTER, A. B., Assistant Professor of Zoology and Curator of the Zoological Museum.
JOSEPH L. MARKLEY, Ph. D., Assistant Professor of Mathematics.
MAX WINKLER, Ph. D., Assistant Professor of German.
MORITZ LEVI, A. B., Assistant Professor of French.
JULIUS O. SCHLOTTERBECK, Ph. C., Ph. D., Assistant Professor of Pharmacognosy and Botany.
ERNST H. MENSEL, Ph. D., Assistant Professor of German.
EARLE W. DOW, A. B., Assistant Professor of History.
CHARLES H. COOLEY, Ph. D., Assistant Professor of Sociology.
ALDRED S. WARTHIN, Ph. D., M. D., Assistant Professor of Pathology in the Department of Medicine and Surgery.
LOUIS P. HALL, D. D. S., Assistant Professor of Dental Anatomy, Operative Technique, and Clinical Operative Dentistry.
MOSES GOMBERG, Sc. D., Assistant Professor of Organic Chemistry.
WILLIAM F. BREAKEY, M. D., Lecturer on Dermatology.
GEORGE O. HIGLEY, M. S., Instructor in General Chemistry.
DAVID M. LICHTY, M. S., Instructor in General Chemistry.
JOHN R. EFFINGER, JR., Ph. D., Instructor in French.
CLARENCE G. WRENTMORE, M. S., Instructor in Descriptive Geometry and Drawing.
KARL E. GUTHE, Ph. D., Instructor in Physics.
TOBIAS DIEKHOFF, Ph. D., Instructor in German.
CLARENCE L. MEADER, A. B., Instructor in Latin.
ARTHUR G. HALL, B. S., Instructor in Mathematics.

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*Professor Hempl is also temporarily in charge of the Department of German.
†Absent on leave.

GEORGE REBEC, Ph. D., Instructor in Philosophy.
JAMES W. GLOVER, Ph. D., Instructor in Mathematics.
LOUIS A. STRAUSS, Ph. M., Instructor in English.
EDWIN C. GODDARD, Ph. B., LL. B., Instructor in Mathematics.
HERBERT J. GOULDING, B. S., Instructor in Descriptive Geometry and Drawing.
*VICTOR E. FRANCOIS, Instructor in French.
PERRY F. TROWBRIDGE, Ph. B., Instructor in Organic Chemistry and Accountant in the Chemical Laboratory.
JOSEPH H. VANCE, LL. B., Assistant Law Librarian.
HAMILTON REEVE, Superintendent of Buildings and Grounds.

OTHER APPOINTMENTS FOR 1899-1900.

KEENE FITZPATRICK, Director of the Gymnasium.
JOHN R. ALLEN, M. E., Assistant Professor of Mechanical Engineering.
BENJAMIN P. BOURLAND, Ph. D., Assistant Professor of French.
WILLIAM L. NIGGETT, B. S., Superintendent of Engineering Shops.
VICTOR C. VAUGHAN, Ph. D., Sc. D., M. D., Lecturer on Toxicology in its Legal Relations in the Department of Law.
HENRY C. ADAMS, LL. D., Lecturer on the Railroad Problem in the Department of Law.
ANDREW C. McLAUGHLIN, A. M., LL. B., Lecturer on Constitutional Law and Constitutional History in the Department of Law.
RICHARD HUDSON, A. M., Lecturer on Comparative Constitutional Law in the Department of Law.
WILLIAM J. HERDMAN, M. D., LL. D., Lecturer on Neurology, Electrology and Railway Injuries in the Department of Law.
JOSEPH H. DRAKE, A. B., Lecturer on Roman Law in the Department of Law.
SIMON M. YUTZY, M. D., Instructor in Anatomy and Demonstrator of Anatomy.
JOHN W. DWYER, LL. M., Instructor in Law.
WILLIAM H. WAIT, Ph. D., Instructor in Greek, Latin and Sanskrit.
HERBERT H. WAITE, A. B., Instructor in Bacteriology, and Dispensing Clerk in the Hygienic Laboratory.
WARREN W. FLORER, Ph. D., Instructor in German.
WALTER B. PILLSBURY, Ph. D., Instructor in Psychology.
ALBERT J. FARRAH, LL. B., Instructor in Law.
EDWIN C. ROEDDER, Ph. D., Instructor in German.
ALFRED H. WHITE, A. B., Instructor in Chemical Technology.
CARROLL D. JONES, E. E., Instructor in Electrical Engineering.
JOHN S. P. TATLOCK, A. M., Instructor in English.
ALICE G. SNYDER, Instructor in the Women's Gymnasium.
S. LAWRENCE BIGELOW, Ph. D., Instructor in General Chemistry.
JAMES B. POLLOCK, Sc. D., Instructor in Botany.
EWALD BOUCKE, Ph. D., Instructor in German.
AUGUSTUS TROWBRIDGE, Ph. D., Instructor in Physics.
WILLIAM H. BUTTS, A. M., Instructor in Mathematics.
JULIA W. SNOW, Ph. D., Instructor in Botany.
JOHN R. ROOD, LL. B., Instructor in Law.
SHIRLEY W. SMITH, B. L., Instructor in English.
HUGO P. THIEME, Ph. D., Instructor in French.
GEORGE L. GRIMES, B. S., Instructor in Mechanical Engineering.
CARL V. TOWER, Ph. D., Instructor in Philosophy.
HERBERT S. JENNINGS, Ph. D., Instructor in Zoology.
THOMAS E. OLIVER, Ph. D., Instructor in French.
HERBERT F. DE COU, A. M., Instructor in Greek.
CHRISTIAN F. GAUSS, A. M., Instructor in French.
JAMES R. ARNEILL, A. B., M. D., Instructor in Clinical Medicine in the Department of Medicine and Surgery.
HENRY A. SANDERS, Ph. D., Instructor in Latin.
BENJAMIN F. BAILEY, B. S., Instructor in Electrotherapeutics.
ROBERT C. BOURLAND, A. B., M. D., Instructor in Anatomy.
EUGENE C. SULLIVAN, Ph. D., Instructor in Analytical Chemistry.
HENRY C. ANDERSON, M. E., Instructor in Mechanical Engineering.
ARTHUR L. CROSS, Ph. D., Instructor in History.
GEORGE A. HULETT, Ph. D., Instructor in General Chemistry.
SAMUEL J. HOLMES, Ph. D., Instructor in Zoology.
JONATHAN A. C. HILDNER, Ph. D., Instructor in German.
JOHN DIETERLE, A. B., Instructor in German.
CHARLES M. WILLIAMS, Instructor in Waterman Gymnasium.
KARL W. GENTHE, Ph. D., Instructor in Zoology.
ALICE L. HUNT, Instructor in Drawing.
CHARLES BAIRD, A. B., Director of Out-of-Door Athletics.
JAMES G. LYNDS, M. D., Demonstrator of Obstetrics and Diseases of Women.
FRED P. JORDAN, A. B., Assistant in the General Library in Charge of Catalogue.
CYRENUS G. DARLING, M. D., Lecturer on Genito-urinary and Minor Surgery, and Demonstrator of Surgery in the Department of Medicine and Surgery, and Clinical Lecturer on Oral Pathology and Surgery in the College of Dental Surgery.
BYRON A. FINNEY, A. B., Assistant in the General Library in charge of Circulation.
JAMES P. BRIGGS, Ph. C., Pharmacist in the University Hospital.
JEANNE C. SOLIS, M. D., Demonstrator of Nervous Diseases in the Department of Medicine and Surgery.
NORMAN A. WOOD, Taxidermist.
D. MURRAY COWIE, M. D., Assistant in Internal Medicine in the Department of Medicine and Surgery.
AUGUSTUS E. GUENTHER, B. S., Assistant in Physiology.

* Absent on leave.

CHARLES L. BLISS, B. S., Assistant in Physiological Chemistry.
HARRY W. CLARK, B. S., Superintendent of the University Hospital.
GEORGE B. WALLACE, M. D., Assistant in Pharmacology in the Department of Medicine and Surgery.
WILLIAM A. SPITZLEY, A. B., M. D., First Assistant in Surgery in the Department of Medicine and Surgery.
HENRY O. SEVERANCE, A. M., Assistant in the General Library.
THEOPHIL KLINGMANN, Ph. C., M. D., Assistant to the Professor of Diseases of the Mind and Nervous System and Electrotherapeutics in the Department of Medicine and Surgery.
HERBERT E. SARGENT, B. S., Curator of the Museum.
HENRY H. PARKE, B. L., Assistant in Zoology.
THOMAS B. COOLEY, A. B., M. D., Assistant in Hygiene.
HAROLD M. DOOLITTLE, Assistant Demonstrator of Anatomy.
JAMES F. BREAKEY, M. D., Assistant in Dermatology.
LYDIA M. DeWITT, B. S., M. D., Assistant in Histology.
FRANK S. BACHELDER, Assistant in Zoology.
ROBERT B. HOWELL, D. D. S., Demonstrator of Mechanical Technique in the College of Dental Surgery.
NORMAN K. McINNIS, A. M., Assistant in English.
FREDERICK A. BALDWIN, M. D., Assistant in Pathology in the Department of Medicine and Surgery.
FREDERICK J. WILBUR, Assistant in Astronomy.
RAYMOND H. POND, M. S., Assistant in Plant Physiology.
HELEN BENDER, Assistant in the Women's Gymnasium.
ALFRED E. LINDAU, Assistant to the Dean of the Department of Engineering.
CHARLES W. JOHNSON, Ph. C., Assistant in Qualitative Chemistry.
LEON J. COLE, Assistant in Zoology.
ROBERT L. JOHNSON, M. D., Superintendent of the University Hospital (Homœopathic).
CORA J. BECKWITH, Assistant in Zoology.
ALPHONSO M. CLOVER, B. S., Assistant in General Chemistry.
GEORGE H. ALLEN, A. M., Assistant in Latin.
HENRY W. HARVEY, D. D. S., Assistant in Clinical, Operative, and Prosthetic Dentistry.
WILLARD H. HUTCHINGS, B. L., M. D., Second Assistant in Surgery in the Department of Medicine and Surgery.
JOHN J. MERSEN, A. M., M. D., Assistant to the Bates Professor of the Diseases of Women and Children in the Department of Medicine and Surgery.
ARTHUR E. GALE, M. D., Assistant in Internal Medicine in the Department of Medicine and Surgery.
EDWARD A. WILLIS, Assistant Demonstrator of Anatomy.
AUGUSTUS HOLM, Assistant Demonstrator of Anatomy.
GERTRUDE FELKER, A. B., Assistant Demonstrator of Anatomy.
CONRAD GEORG, A. B., M. D., Interne in the University Hospital.
ROY B. CANFIELD, A. B., M. D., Assistant to the Professor of Ophthalmic and Aural Surgery in the Department of Medicine and Surgery.
DEAN W. MYERS, M. D., Asistant to the Professor of the Theory and Practice of Medicine and to the Professor of Ophthalmology, Otology, and Pædology in the Homœopathic Medical College.
HARVEY M. PIPER, M. D., House Physician in the University Hospital (Homœopathic).
FLOYD E. WESTFALL, M. D., House Physician in the University Hospital (Homœopathic).
OVIDUS A. GRIFFIN, B. S., M. D., Demonstrator of Ophthalmology and Otology in the Department of Medicine and Surgery.
JOHN W. SLAUGHTER, A. B., B. D., Assistant in Psychology.
CHARLES SIMONS, B. L., Assistant in Elocution.
HARRY N. COLE, Assistant in Qualitative Chemistry.
FRED L. WOOD, Assistant in Quantitative Analysis.
GEORGE M. HEATH, Ph. C., Assistant in Pharmacy.
NORMAN F. HARRIMAN, Assistant in Chemical Technology.
HARRY M. GORDIN, Ph. D., Assistant in Chemical Research.
RAYMOND A. CLIFFORD, M. D., Assistant to the Professor of Surgery in the Homœopathic Medical College.
RAYMOND PEARL, A. B., Assistant in Zoology.
CHARLES M. BRIGGS, Assistant in Clincial, Operative, and Prosthetic Dentistry.
MARY A. GODDARD, Assistant in Botany.
ELMA CHANDLER, Assistant in Botany.
HOWARD S. REED, Assistant in the Botanical Laboratory.
HOWARD B. BISHOP, Laboratory Assistant in General Chemistry.
ARTHUR M. LINDAUER, Assistant in Organic Chemistry.
LOUALLEN F. MILLER, B. S., Dispensing Clerk in the Electrotherapeutical Laboratory.
ALICE S. HUSSEY, A. M., Assistant in English.
PAUL I. MURRILL, Ph. D., Assistant for Research in Pharmacognosy.
WALTER D. HADZEITS, A. M., Asistant in Latin.
RICHARD D. T. HOLLISTER, Assistant in the Museum.
WILLIAM D. MUELLER, M. D., Interne in the University Hospital.
GEORGE F. YOUNG, M. D., Interne in the University Hospital.
JAMES GOSTANIAN, M. D., Interne in the University Hospital.

NON-RESIDENT LECTURERS ON SPECIAL TOPICS FOR 1899-1900.

JOHN CLAYBERG, LL. B., Lecturer on Mining Law. Helena, Mont.
MELVILLE M. BIGELOW, Ph. D., Lecturer on Insurance. Cambridge, Mass.
HENRY H. SWAN, A. M., Lecturer on Admiralty Law. Detroit.

OSCAR R. LONG, M. D., Lecturer on Mental Diseases in the Homœopathic Medical College. Ionia.
FRANK F. REED, A. B., Lecturer on Copyright Law. Chicago, Ill.
ALBERT H. WALKER, LL. B., Lecturer on Patent Law. New York, N. Y.
WILLIAM M. EDWARDS, M. D., Lecturer on Mental Diseases in the Department of Medicine and Surgery. Kalamazoo.
EDMUND A. CHRISTIAN, A. B., M. D., Lecturer on Mental Diseases in the Department of Medicine and Surgery. Pontiac.
JAMES D. MUNSON, M. D., Lecturer on Mental Diseases in the Department of Medicine and Surgery. Traverse City.
HENRY B. BAKER, A. M., M. D., Lecturer on the Administration of Health Laws. Lansing.
WILLIAM A. POLGLASE, M. D., Lecturer on the Theory and Practice of Medicine, and on Nervous Diseases, in the Homœopathic Medical College. Lapeer.
DALLAS BOUDEMAN, M. S., Lecturer on Michigan Statutes in the Department of Law. Kalamazoo.

CHARITABLE.

THE STATE INDUSTRIAL HOME FOR GIRLS.

ADRIAN.—ESTABLISHED IN 1879.

The object of this institution is the correction of juvenile female offenders; girls between the ages of ten and seventeen years convicted of disorderly conduct are sent here, to remain until twenty-one years of age, unless sooner discharged by the Board of Guardians for good conduct.

The property, which is located one mile north of Adrian, Lenawee county, comprises 115 acres of land and seven cottages, administration building, chapel, school house, hospital, greenhouse, engineer's cottage, two farm-houses and barns. Total valuation, $191,171.46.

The average number of pupils the past year has been three hundred, with an average of thirty-three teachers and officers. The girls are employed in the morning at housework, laundry work, sewing, dressmaking, cooking, light work on the lawn and in the garden; in the afternoon attending school. The studies taught are reading, writing, spelling, arithmetic, grammar, geography, physiology, botany and civil government.

A cooking school has been added during the past year; a teacher proficient in the art, a graduate of the Scientific Department of the University of Toledo, Ohio, has been engaged, and teaches two classes a day, the younger girls taking instruction in the morning; the older girls, and those who have finished the course in school, taking lessons in the afternoon.

A new department has been added to the dressmaking; two teachers are now employed, one having the advanced class doing custom work.

When girls have shown by their good conduct that they are ready to leave the Home, they are sent out on contract, or leave of absence. An average of about 110 are out on contract leading good lives and doing well.

The number of girls who have entered the Home to date is 1,528. Of the number who have received their instruction here and gone forth into the world, many are married and in homes of their own, leading good lives. Quite a number are dressmaking for a living, some are

teaching, and several, having taken the course in nursing, are regular trained nurses.

The Board of Guardians.—Mrs. Allaseba M. Bliss, President, Saginaw; Fred C. Bowerfind, Treasurer; *Mrs. Anna M. Smith, Secretary, Flint.

OFFICERS AND TEACHERS.

LUCY M. SICKELS, Superintendent.
S. HELEN KING, Assistant Superintendent.
WINIFRED IVES, Bookkeeper.
MINA L. FULLER, Physician.
JEAN S. HALL, Cottage Manager.
MARY F. MARTIN, Cottage Manager.
MARY E. CURTIS, Cottage Manager.
LENA L. FORREST, Cottage Manager.
C. BRENNAN, Cottage Manager.
ANNA L. HELBING, Cottage Manager.
FLORENCE WEST, Cottage Manager.
EMMA V. JONES, Assistant Cottage Manager and Vocal Teacher.
EMMA COWAN, Assistant Cottage Manager.
DELLA SKAATS, Principal Teacher.
LILLIAN HILLMAN, Teacher.
FRANCES HUTCHINSON, Teacher.
FRANCES C. BRANCH, Teacher.
KATHERINE THEILMAN, Teacher.
JEANNETTE McINNESS, Teacher.
FRANCES ROSE, Teacher.
CLARA ANGEVINE, Housekeeper.
LAURA J. WING, Housekeeper.
BELLE BURGESS, Housekeeper.
SISERA HALE, Housekeeper.
BESSIE M. BOWLEY, Housekeeper.
MARY B. STAULKER, Housekeeper.
HATTIE LAMBIE (MRS.), Housekeeper.
PHOEBE SLINGMAN, Cooking School Teacher.
MARY MACHAELIS, Dressmaker, advance class.
LENA GILLETT, Sewing Teacher.
MINNIE WIGGINS, Laundry Teacher.
LELIA RAPP, Relief Officer.
ELCIE M. JOHNSTON, Relief Officer.

INDUSTRIAL SCHOOL FOR BOYS.

LANSING—ESTABLISHED IN 1855.

The object of this school, formerly known as the State Reform School, is the correction of juvenile male offenders; boys between the ages of ten and sixteen, convicted of any offense punishable by fine or imprisonment (save life imprisonment), may be sentenced till the age of seventeen. In addition to common school branches, the following trades are taught: Carpentry, printing, baking, shoe-making, tailoring, and farming. The property, which is located in the city of Lansing, Ingham county, consists of 260 acres of land and eight buildings, exclusive of shops and barns. Its estimated value is $260,812.08. In April, 1899, 648 pupils were enrolled, with 47 teachers and employes.

Board of Trustees.—Wm. McPherson, Jr., Chairman, Howell; Frank P. Sayre, Secretary, Flushing; Jacob Stahl, Lansing.

OFFICERS AND TEACHERS.

J. E. ST. JOHN, Superintendent.
E. M. LAWSON, Assistant Superintendent.
A. E. ST. JOHN, Matron.
CLARA RUHL, Housekeeper.
R. L. GAGE, Superintendent's Clerk and Bookkeeper.
ALICE C. STANLEY, Stenographer.
J. H. WELLINGS, Physician.

*Mrs. Smith died June 8, 1900. No one yet appointed to fill vacancy.

WARREN McCLELLAN, Cottage Manager and Overseer.
MRS. McCLELLAN, Teacher.
MRS. J. MURRAY, Teacher.
MRS. LONGMAN, Teacher.
MRS. C. E. JAY, Teacher
MAGGIE ESLER, Teacher.
ANNA L. PINKERTON, Teacher.
ANNA DAVIS, Teacher.
MINNIE ROOT, Teacher.
NETTIE RELYEA, Teacher.
MRS. RUPP, Teacher.
LILLA D. STRONG, Teacher.
W. H. STRONG, Cottage Manager and Store Room Keeper.
R. A. LONGMAN, Cottage Manager and Farmer.
GEO. MORRISON, Cottage Manager and Instructor in Printing.
A. E. HITE, Tailor.
W. N. RELYEA, Cottage Manager and Overseer.
A. I. DAVIS, Cottage Manager and Painter.
JAS. MURRAY, Overseer.
ROBT. BURNS, Shoemaker.
W. L. BRUSH, Overseer and Instructor Carpentry Department.
HARRY RUPP, Cottage Manager and Band Master.
F. M. ROOT, Cottage Manager and Musical Instructor.
A. J. PLUMBE, Baker.
DAVID COLLINS, Engineer.
J. C. CAMPBELL, Assistant Farmer.
D. S. CROSSMAN, Watchman.
MRS. WIGHT, Laundress.
PHOEBA WICKENS, Supervisor Boys' Dining Room.
HANNAH BAILEY, Supervisor Boys' Kitchen.
ALICE K. LARNED, Hospital Nurse.
SARAH WILLIAMS, Supervisor Mending Room.
C. R. PLUMBE, Supervisor Dormitory Work.
E. A. GOODHUE, Supervisor Dormitory Work.
MRS. STEWART, Supervisor Dormitory Work.
HATTIE CAMPBELL, Supervisor Dormitory Work.
LENA ALLEMENDINGER, Dining Room Girl.
MISS FRENCH, Dining Room Girl.
KATE SHIBLEY, Cook.
C. E. JAY, Florist.
C. CAHILL, Teamster.
A. L. ROGERS, Dormitory.

MICHIGAN SCHOOL FOR THE BLIND.

LANSING—ESTABLISHED IN 1881.

In this institution pupils between the ages of 7 and 19 years, whose defective vision prevents their education in the public school, receive instruction in common school branches (without charge for tuition or board), and in such useful arts and trades as they are best adapted to pursue. Proper moral and physical training is also given. Located in the city of Lansing, the grounds contain 45 acres, with four main buildings, the total valuation being $155,000. Last year the students numbered 124, teachers 10.

Board of Control.—Theodore W. Crissey, President, Midland; G. Willis Bement, Treasurer, Lansing; F. S. Wheat, Vice-President and Secretary.

OFFICERS AND TEACHERS.

E. P. CHURCH, Superintendent and Steward.
ANNA E. POTTER, Clerk and Bookkeeper.
MRS. ELIZA BUSH, Matron.
J. F. CAMPBELL, M. D., Physician.
CHRISTINE KEYES, Nurse.
CARRIE McKENNY, Junior Boys' Matron.

LITERARY DEPARTMENT.

EDWARD H. GOODRICH.
LOUIE M. CHURCH.
A. WINIFRED CHILDS.
EVA S. ANDREWS, Kindergartner.

MUSICAL DEPARTMENT.

AARON C. BLAKESLEE, Musical Director.
LEMMA M. VOORHEIS, Vocal Music.
GRACE A. BROWN, Assistant, Instrumental Music.

HANDICRAFT.

MISS E. A. FOOTE, Girls' Work.
RHA CONKLIN, Broom Making.
KATE WRIGHT, Cooking.
MRS. PAULINE TOOLAN, Hammock, Netting, etc.

MICHIGAN SCHOOL FOR THE DEAF.

FLINT—ESTABLISHED IN 1854.

This institution furnishes instruction to all children of the State between 7 and 21 years of age who, by reason of defective hearing, cannot be taught in the common schools. The only charge is for clothing and traveling expenses, and even these are furnished to indigent children. The method of instruction pursued is what is known as the American or combined system of teaching the deaf. Its object is to give every pupil who enters the school a fair trial by regular instruction in speech, and to discontinue such instruction only after it is shown that the attainment of a useful amount of speech and lip-reading is impossible. The course of study begins at the very first rudiments of the English language, with the teaching of the language idea by means of pictures, objects, actions, gestures, etc.; and the course for the thirteen years extends to about the same point as a class of the junior year in the Michigan high schools, with the exception that no language except English is taught save for those few pupils who are preparing themselves for the National College at Washington.

In the Art Department instruction is given in drawing, designing, wood-carving, etching, etc. The boys are also taught cabinet-making, shoemaking, harness-making, printing and tailoring, while the girls are instructed in all kinds of sewing and in practical cooking; and every pupil must at least attempt to master some trade.

The institution is located at Flint, Genesee county. In addition to the 150 acres owned by the State, the school rents 125 from private parties. The buildings and grounds occupy about 30 acres, the remainder being devoted to a large herd of cattle kept by the school. The present total valuation of the property is $491,996.36. Enrollment for the past year was 423 pupils, 34 teachers.

Board of Trustees.—Frank North, President, Pontiac; Charles S. Brown, Treasurer, Flint; John Crispe, Secretary, Plainwell.

OFFICERS AND TEACHERS.

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EDWIN F. SWAN, Steward.
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MRS. EMILY TWIST, Assistant Matron.
RANSOM N. MURRAY, M. D., Physician.
MRS. ANNIE S. RUNDELL, Assistant Physician.
JOHN AUSTIN, Engineer.
E. C. TOWER, Farmer.
FRED M. KAUFMAN, Supervisor.
SARAH R. JONES, Supervisor.
MARK H. PIPER, Supervisor.

FLORENCE H. JONES, Supervisor.
CLARK DeLONG, Supervisor.
EDWIN P. BARTON, Instructor of Cabinet-making.
PARLEY P. PRATT, Instructor of Shoemaking.
E. MORRIS BRISTOL, Instructor of Printing.
ROBERT FORD, Instructor of Tailoring.
MRS. HULDA R. J. MERCER, Instructor of Art.
AGNES BALLANTYNE, Instructor of Dressmaking.
ROBERT L. ERD, Teacher of Physical Culture.
NETTIE R. CROSBY, Teacher of Primary Drawing.

TEACHERS IN MANUAL DEPARTMENT.

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WILLIS HUBBARD.
THOMAS J. ALLEN.
ARTHUR D. BUCHANAN.
JAMES M. STEWART.
ARLINGTON EICKHOFF.
EMMA F. KNIGHT.
CARRIE W. EARLE.
GRACE M. BEATTIE.
CLARA B. SCOTT.
CAROLINE F. ELWOOD.
MARY KNICKERBOCKER.
HINDA M. LONG.
SARA FENNER.
LINDA DE MOTTE.
JOSEPHINE TITUS.
FANNIE THAYER.
MARY SPENCER.
MARY M. WILLIAMSON.

TEACHERS IN ORAL DEPARTMENT.

MRS. L. K. CLARKE, Principal in Charge.
THOMAS P. CLARKE.
ELLA E. J. CRAWFORD.
CARRIE E. BILLINGS.
JESSIE S. BALLANTYNE.
GRACE R. LOCHHEAD.
MABEL GALBRAITH.
MARY BEAGLE.
GEORGIA E. ANDREWS.
ABIGAIL BUCKINGHAM.
MINNIE H. BRABYN.
IDA M. AUSTIN.
EMMA D. FARNUM.
INA GREAR.

STATE PUBLIC SCHOOL.

COLDWATER—ESTABLISHED IN 1871. OPEN TO RECEIVE CHILDREN 1874.

Any child in the State between the ages of six months and twelve years who is of sound mind and body and dependent on the public for support, may be committed to the care of this institution. The average age of pupils is seven and one-half years, and the instruction is that of primary and grammar grades. Those who are old enough, are instructed in common daily labor. During the twenty-eight years since its establishment, 4,783 children have been received, most of whom were placed in good homes. The number of teachers is four, cottage matrons nine. The school owns 21 buildings, occupying 160 acres; present valuation, $250,000.

Board of Control.—*Marshall E. Rumsey, President, Lansing; Caleb D. Randall, Secretary, Coldwater; Frank M. Stewart, Hillsdale.

OFFICERS AND TEACHERS.

JOHN B. MONTGOMERY, Champion, Marquette Co., Superintendent.
STANLEY C. GRIFFIN, Albion, Calhoun Co., State Agent.
AGNES F. CHALMERS, Grand Rapids, Kent Co., Clerk.

*Deceased.

N. BALDWIN, Coldwater, Branch Co., Physician.
FLORENCE L. BISHOP, Leslie, Ingham Co., Stenographer.
ANDREW J. BENNETT, Coldwater, Branch Co., Engineer and Superintendent of Buildings.
B. F. CLIZBE, Coldwater, Branch Co., Farmer
MRS. F. M. HARRIS, Perrysburg, Ohio, Matron.

COTTAGE MANAGERS.

MISS LUA FOX, Grand Rapids, Kent Co., Cottage No. 1.
MRS. IDA ANDERSON, Saginaw, Saginaw Co., Cottage No. 2.
MRS. JENNIE BROWN, Union City, Branch Co., Cottage No. 3.
MRS. FANNIE RUSSELL, Coldwater, Branch Co., Cottage No. 5.
MRS. HARRIETT WHEELER, Quincy, Branch Co., Cottage No. 6.
MRS. FANNIE BAYNE, Albion, Calhoun Co., Cottage No. 7.
MISS MATTIE BARBER, Coldwater, Branch Co., Cottage No. 8.
MRS. ANNA GILMAN, Union City, Branch Co., Cottage Supply.
MISS DORA WEBB, Paw Paw, Van Buren Co., Cottage Supply.

TEACHERS.

MR. MARTIN SLINGER, Chicago, Ill.
MISS WINIFRED BARTLETT, Plymouth, Wayne Co.
MISS LOUISE HARDING, Hillsdale, Hillsdale Co.
MISS MARTHA E. NILES, Flushing, Genesee Co.

INCORPORATED.

DENOMINATIONAL.*

ADRIAN COLLEGE—ESTABLISHED IN 1859.

At present four schools are included under the management of this college; viz., College of Literature and the Arts, School of Music, School of Theology, and Preparatory School. A Teachers' Course has also been added to meet the increasing demand for better qualified teachers in graded and district schools. The various courses lead to four degrees, B. A., B. S., Ph. D., B. L., B. Music. The institution is controlled by thirty trustees, twenty-four of whom are elected by the General Conference of the Methodist Protestant Church, and six by the college alumni. It is located at the county seat of Lenawee county, a city of about 10,000.

Officers of the Board.—President, W. N. Swift, Adrian; Secretary, G. B. McElroy, Adrian.

FACULTY AND OFFICERS.

DAVID JONES, D. D., President, and Dean of the School of Theology.
GEORGE B. McELROY, D. D., Emeritus Professor of Mathematics.
J. D. H. CORNELIUS, A. M., Greek and Latin.
W. H. HOWARD, Ph. D., Physics, Chemistry.
ORREN L. PALMER, A. M., Mathematics.
EDSON G. WALKER, M. S., Literature, Economics, and Sociology, Secretary of Faculty.
SARAH J. KNOTT, Preceptress, History, and Pedagogy.
T. F. RINEHART, Doc. Mus., Instrumental Music.
CARRIE B. PHELPS, O. M., Elocution and Physiculture.
LILY SIHLER BOWERFIND, German.
GRACE GIFFORD, Vocal Music, and French.
BERTHA M. LAMBERT, Latin Teacher in Academic Department.
EMMA YARD, History Teacher in Academic Department.
P. W. JONES, Mathematics Teacher in Academic Department.
E. G. PALMER, Greek Teacher in Academic Department.
ELIZABETH GIBBS-PALMER, Registrar.
CARRIE GREGORY, Librarian.
JOSHUA P. TOLFORD, Steward.

*As the governing boards of these institutions vary in number (from five to forty members), only the president and secretary are given.

ALBION COLLEGE—ESTABLISHED IN 1843.

This institution styles itself a "College of Liberal Arts," and three degrees are granted on completion of its courses—A. B., B. S., and B. L. The Board of Trustees comprises six members elected by the Detroit Conference, and six by the Michigan Conference of the Methodist Episcopal Church, together with three elected by the Alumni Society. It is a non-sectarian school, but aims to promote the interests of Christ's kingdom more fully than is usually done in educational institutions. Though the atmosphere is thoroughly religious and the course includes a few biblical studies, it is in no sense a theological school. In addition to the Literary Department, which includes a course in pedagogy approved by the State Board of Education, there is a Conservatory of Music, School of Oratory, School of Painting, Preparatory Department, Business Department. It is located at Albion, a thriving city of 5,000 inhabitants, in Calhoun county.

Officers of the Board.—President, Horace Hitchcock, Detroit; Secretary, Samuel Dickie, Albion.

FACULTY AND OFFICERS.

JOHN P. ASHLEY, Ph. D., D. D., John Owen Professor of Philosophy.
LEWIS R. FISKE, D. D., LL. D., Ex-President, Emeritus Professor of Philosophy.
DELOS FALL, Sc. D., Senior Professor; David Preston Professor of Chemistry.
FREDERICK LUTZ, A. M., Professor of Romance Languages and Literature.
CHARLES ELISHA BARR, A. M., Professor of Geology and Biology.
FREDERICK SAMUEL GOODRICH, A. M., Professor of Greek Language and Literature.
HENRIETTA ASH BANCROFT, A. M., Professor of English Language and Literature.
HENRY BENNER, Ph. D., W. H. Brockway Professor of Mathematics and Acting Ezra Bostwick Professor of Astronomy.
WILLIAM M. BURKE, Ph. D., Henry M. Loud Professor of History and Acting Professor of Economics.
WILLIS M. BLOUNT, A. M., Professor of Pedagogy.
GRANT STEWART, Professor of Oratory and English. (W. Scott Brown Chair of Belles Lettres.)
RICHARD CLYDE FORD, Ph. M., Assistant Professor of German Language and Literature.
ELLEN JOSEPHINE CLARK, A. M., Instructor in English and Latin.
ELEANOR T. AVANN, A. M., Instructor in Latin.
ALTA M. ALLEN, A. B., Instructor in Greek.
SARAH M. BLAIR, Instructor in Art.
GUSTAVUS SYLVESTER KIMBALL, M. Accts., Principal of Commercial Department.
DORA HOUSTON PITTS, Teacher of Shorthand and Typewriting.
OTTO SAND, Professor of Violin, Harmony and Counterpoint, Director of Orchestra.
ZELLA BRIGHAM SAND, Teacher of Piano, Pipe Organ, Harmony and Voice.
ETHEL CALKINS, Teacher of Piano.
CLARISSA DICKIE, Teacher of Piano.
MARTHA REYNOLDS COLBY, Instructor in Violin.
ALBERT GALE, Instructor in 'Cello and Wind Instruments.
CHESTER L. BREWER, Professor of Physical Education for Men Students.
SARAH M. BLAIR, Director of Physical Education for Women Students.
EDWIN ROSCOE SLEIGHT, Instructor in Mathematics.
W. LEROY McDIARMID, Instructor in Physics.

ALMA COLLEGE—ESTABLISHED IN 1886.

This college was established by the Michigan Synod of the Presbyterian Church, and its affairs are administered by a Board of Trustees numbering twenty. It embraces six divisions—College, Academy, School of Pedagogy (approved by the State Board of Education), Commercial School, School of Music, and School of Art—with three courses leading to the degrees B. A., B. S., Ph. D. Located at Alma, Gratiot county, this college is very near the geographical center of Lower Michigan.

Officers of the Board.—President, Nathan B. Bradley, Bay City; Secretary, Joseph W. Ewing, Alma.

FACULTY AND OFFICERS.

AUGUST F. BRUSKE, M. S., D. D., President, and Wells Professor of Philosophy and Theism.
JOSEPH W. EWING, A. M., Folsom Professor of Pedagogy, and Principal of the Academy.
MARY C. GELSTON, A. M., Professor of Latin.
CHARLES A. DAVIS, A. M., Wright-Davis Professor of Natural Sciences, and Secretary of the Faculty.
JOHN T. EWING, A. M., Folsom Professor of Greek, and Registrar.
JAY CLIZBE, A. M., A. B., Professor of Biblical Literature.
JAMES MITCHELL, A. M., Ph. B., Wright Professor of History and Political Science.
MARY A. CLARKE, Principal, Stone Professor of English.
FRANK N. NOTESTEIN, Ph. D., Wright Professor of Mathematics and Physics.
KATHERINE M. INGLIS, Instructor in French and German.
FRED FULLERTON, M. S., Instructor in Mathematics.
KATE L. BOOTH, Principal of the School of Art.
MRS. MARY D. PLUM, Principal of Training School for Kindergartners.
ROBERT C. KING, Principal of Commercial School.
JENNIE E. WAGNER, Principal of School of Music.
JOSEPHINE ST. JOHN, Instructor in Voice.
HERBERT A. MILLIKEN, Instructor in Violin and Stringed Instruments.
EDWIN FAUVER, B. A., Instructor in Athletics and Director of Gymnasium.
EDGAR A. BAGLEY, M. D., Medical Examiner for Gymnasium Work.
LIZABETH B. CASE, Librarian.
HUGH McCOLL, M. D., Special Lecturer on Hygiene.
S. C. J. OSTRUM, M. D., Special Lecturer on Hygiene.

BATTLE CREEK COLLEGE—ESTABLISHED IN 1872.

This institution under control of twelve trustees elected by the Seventh-day Adventists, is called a "Training School for Christian Workers," and its first object is the training of missionaries who shall promulgate the truth as understood by this denomination. Accordingly there are no set courses of degrees, but each student is urged "prayerfully to decide upon a course of training best adapted to his natural ability and in accordance with the manifest guidance of the Spirit of God." Upon leaving the school students are granted certificates indicating the amount and character of work done. The departments of instructions are the following: Ministerial, Medical, Musical, Commercial, and Industrial.

The college is situated in Battle Creek, a most enterprising city of about 18,000 inhabitants.

Officers of the Board.—President, A. T. Jones, Battle Creek; Secretary, Percy T. Magan, Battle Creek.

FACULTY AND OFFICERS.

EDWARD A. SUTHERLAND, President, English Bible.
PERCY T. MAGAN, Dean.
ALONZO T. JONES, Mental, Moral and Political Science.
EDWIN BARNES, Superintendent Music Department.
EMORY D. KIRBY, Biblical Greek and Latin.
J. H. HAUGHEY, Mathematics and Phonography.
S. S. EDWARDS, M. D., Natural Sciences.
MRS. MARIA L. EDWARDS, M. D., Physiology and Bible Hygiene.
HOMER R. SALISBURY, Preceptor, Hebrew and History.
ELMER E. GARDNER, Commercial Department.
MISS MARY STEWART, English Language.
MISS M. B. DeGRAW, Pedagogy.
E. P. BOGGS, Canvassing.
C. M. CHRISTIANSEN, Industrial Department.
MRS. LENNA R. SALISBURY, Domestic Department.
MISS MARY LAMSON, Preceptress.
JOHN P. CHRISTIANSEN, Mechanics.
ARTHUR W. HALLOCK, Carpentry.
MERRILL N. CROSS, Broommaking.
J. M. JONES, Tailoring.
MISS IDA OWEN, Dressmaking.
MISS ROSMA M. WHALEN, Librarian and Secretary of the Faculty.
J. W. COLLIE, Business Manager.

DETROIT COLLEGE—ESTABLISHED IN 1877.

Under the care of the Fathers of the Society of Jesus, the purpose of this college is to impart instruction in the branches of a Christian and liberal education. The course includes religious instruction, mental and moral philosophy, astronomy and mathematics, history, literature, and the natural sciences; it embraces two departments, Collegiate and Academic. The trustees are five in number, and the location is at Detroit, the metropolis of Michigan.

Officers of the Board.—President, Rev. James D. Foley, S. J., Detroit; Secretary, Rev. A. J. Burrows, S. J., Detroit; Treasurer, Rev. R. A. Shaffel, S. J., Detroit.

FACULTY AND OFFICERS.

REV. JAMES D. FOLEY, S. J., President
REV. A. J. BURROWS, S. J., Vice-President, Prefect of Studies.
REV. BENEDICT MASSELIS, S. J., Chaplain.
REV. JAMES MELOY, Mental and Moral Philosophy.
REV. THOS. TREACY, Astronomy, Geology, Physics.
VINCENT FUSZ, Mathematics, Chemistry, Special Classes.
REV. AUGUSTINE M. EFFINGER, S. J., Rhetoric, Evidences of Religion.
R. S. JOHNSTON, Poetry.
REV. P. BURKE, S. J., Humanities, A.
JOHN SYNNOTT, First Academic, A. Second Academic.
L. LEAHEY, First Academic, B.
LEO J. LYONS, S. J., Third Academic, A.
REV. JOHN OTTEN, S. J., Third Academic, B.
PATRICK J. BURKE, S. J., and L. LEAHEY, S. J., Prefects of Discipline.
REV. ROBT. HENNEMAN, Humanities, B.

PRECEPTORS IN SPECIAL STUDIES.

REV. AUGUSTINE M. EFFINGER, S. J., and REV. JOHN OTTEN, S. J., German.
REV. P. BURKE, S. J., Bookkeeping.
ROBERT HENNEMAN, S. J., Music.

ELOCUTION.

REV. EDMUND S. MURPHY, S. J.
ROBERT S. JOHNSTON, S. J.
PATRICK J. BURKE, S. J.
JOHN F. SYNNOTT, S. J.
LEO J. LYONS, S. J.
L. LEAHEY.

HILLSDALE COLLEGE—ESTABLISHED IN 1855.

The thirty-five trustees who administer the affairs of this college are controlled by the Free Baptist denomination, and the curriculum offers four courses—Classical, Philosophical, Literary, and Normal, the latter approved by State Board of Education. These lead respectively to the degrees of A. B., Ph. B., L. B., Pd. B. There is also a department in Theology, Music, Art, Oratory, and a Preparatory School. Hillsdale, the seat of the college, is a flourishing city in Southern Michigan of about 3,000 inhabitants.

Officers of the Board.—President, George F. Mosher, Hillsdale; Secretary, Grover A. Jackson, Hillsdale.

FACULTY AND OFFICERS.

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KINGSBURY BACHELDER, A. M., Professor of the Greek Language and Literature.
CHARLES HENRY GURNEY, A. M., Alumni Professor of Logic, Rhetoric, and English Literature, and Principal of Normal Department.

DUNCAN McLAREN MARTIN, Ph. M., Hart Professor of Mathematics, Fowler Professor of Physics, Instructor in Gymnasium.
WILLIAM H. MUNSON, B. S., Professor of Chemistry, Biology, and Geology.
STEPHEN BENJAMIN HARVEY, A. M., Professor of German.
FRANK B. MEYER, A. B., Waldron Professor of Latin.
ELLEN ADELAIDE COPP, A. B., B. D., Lady Principal, and Instructor in Latin and English.
FRANCES STEWART MOSHER, A. M., Professor of French and History.
CLARENCE E. DE PEW, A. B., Instructor in Science and English.
REV. RANSOM DUNN, D. D., Emeritus De Wolf Professor of Homiletics.
REV. LEROY WATERMAN, B. D., Professor of Hebrew Language and Literature.
REV. DELAVAN BLOODGOOD REED, A. M., D. D., Marks Professor of Ecclesiastical History and History of Christian Doctrine.
REV. JOHN T. WARD, D. D., Burr Professor of Systematic Theology.
*——, Smith Professor Metaphysics and Theology.
*——, Aldrich Professor of Biblical and Pastoral Theology.
MELVILLE WARREN CHASE, Mus. Doc., Professor of the Pianoforte, Harmony and Theory.
JOHN WILSON DODGE, Professor of Voice and Chorus Director.
MRS. MAY HEMES DODGE, Teacher of Violin.
ILIFF C. GARRISON, Accompanist.
GEORGE B. GARDNER, A. M., Professor of Painting and Drawing.
M. MYRTILLA DAVIS, Instructor in Elocution and Oratory.
PROF. C. H. GURNEY, Librarian and Registrar.
JEAN MARTIN, Assistant Librarian.
PROF. S. B. HARVEY, Secretary.

HOPE COLLEGE.—ESTABLISHED IN 1851.

This college is the outcome of immigration to this country of those sturdy Netherlanders who in 1847 began coming hither for larger religious liberty and greater material prosperity. In 1850 they united with the Reformed Church in America, and in 1851 established a "Pioneer School;" this in 1857 was merged in "Holland Academy" and in 1866 again changed its name to that at present employed. Its council includes eight members elected by the general Synod, together with two from the Classis of Wisconsin, Michigan, Pleasant Prairie, Grand River, Holland, Dakota, Iowa and Illinois, respectively. It is in no sense a local institution, but represents a territory reaching from New York to the Dakotas. Its leading course is Literary, leading to the degree of A. B. There is also an Elective Course and a Preparatory Department. A Theological Department is conducted in a separate building near the college campus, and is under a separate governing board of eighteen members. This department was established in 1869, and is known as the "Western Theological Seminary of the Reformed Church in America." Hope College is located at Holland, a city of nearly 10,000 people, twenty-five miles southwest of Grand Rapids.

Officers of the Council.—President, Rev. G. De Jonge, Vriesland, Mich.; Secretary, G. J. Diekema, Holland.

COLLEGE FACULTY.

GERRIT J. KOLLEN, LL. D., President, Political Economy.
CORNELIUS DOESBURG, A. M., Secretary and Registrar.
HENRY BOERS, A. M., Professor of History.
JOHN H. KLEINHEKSEL, A. M., Vice President, Professor Mathematics.
JAMES G. SUTPHEN, A. M., Rodman Professor of the Latin Language and Literature.
JOHN B. NYKERK, A. M., Professor of the English Language and Literature, Vocal Music.
DOUWE B. YNTEMA, A. M., Professor of Chemistry and Physics.
REV. JOHN TALLMADGE BERGEN, A. M., Robert Schell Professor of Ethics and Evidences of Christianity, Logic.
REV. W. A. DE JONGE, Professor of the Dutch Language and Literature.
HENRY VEGHTE, A. M., Professor of the French and German Languages and Literatures.
EDWARD D. DIMNENT, A. B., Ralph Voorhees Professor of the Greek Language and Literature.
ADONIRAM J. LADD, A. B., Professor of Psychology and Pedagogy.

*Filled by professors already mentioned.

S. O. MAST, B. S., Professor in Natural Sciences.
MRS. C. VAN RAALTE GILMORE, Lady Principal.
HON. G. J. DIEKEMA, A. M., LL. B., Lecturer on Political Economy.
GEO. E. KOLLEN, A. M., LL. B., Lecturer on Political Economy.
J. W. BEARDSLEE, Jr., A. M., Tutor in Latin.

SEMINARY FACULTY.

REV. JOHN W. BEARDSLEE, D. D., President. Professor of Biblical Languages and Literature.
REV. HENRY E. DOSKER, D. D., Secretary of the Faculty and Professor of Historical Theology, Hermeneutics and Harmony of the Gospels.
REV. EGBERT WINTER, D. D., Professor of Didactic and Polemic Theology, Practical Theology.
REV. J. TALLMADGE BERGEN, Instructor in Elocution.

KALAMAZOO COLLEGE—ESTABLISHED IN 1833.

This college, known in its earliest days as "The Kalamazoo Literary Institute," is Michigan's oldest classical educational institution, as also one of the first co-educational colleges in America, having admitted women as early as 1855, at which time a most liberal charter was granted by the legislature, empowering the trustees (numbering 36) to administer its affairs; it is controlled by the Baptist denomination. In 1895-6 an agreement was entered into whereby the institution was affiliated with Chicago University. There are three courses of study leading respectively to the degrees B. A., Ph. B., B. S. A course in pedagogy, approved by the State Board of Education, has also been added. Kalamazoo is a beautiful city of about 25,000 inhabitants, in southwestern Michigan.

Officers of the Board.—President, C. C. Bowen, Detroit; Secretary, H. B. Coleman, Kalamazoo.

FACULTY AND OFFICERS.

ARTHUR GAYLORD SLOCUM, LL. D., President, Professor of Mental and Moral Philosophy.
SAMUEL BROOKS, D. D., Professor of the Latin Language and Literature.
SETH JONES AXTELL, A. M., Professor of the Greek Language and Literature.
STILLMAN GEORGE JENKS, B. S., Professor of Natural Sciences, Librarian.
CLARKE BENEDICT WILLIAMS, A. M., Professor of Mathematics.
CLARK MILLS BRINK, Ph. D., Professor of English and History.
ELIPHALET ALLISON READ, Ph. D., Professor of Psychology and Pedagogy.
ANDRE BE'ZIAT de BORDES, Ph. D., Professor of Romance Languages.
LUCY JOHNSON, Ph. B., Instructor in Latin and History.
CAROLINE HARDER SWARTOUT, A. B., Instructor in German.
CLARA P. ANDERSON, A. M., Instructor in English.
GEORGE HERBERT FAIRCLOUGH, Instructor in Piano, Organ and the Theory of Music.
PAULINE LATOURETTE, A. M., Instructor in the Preparatory Department and in Vocal Music.
WYLIE CHURCHILL MARGESON, A. M., Instructor in Natural Sciences and Mathematics.
SETH JONES AXTELL, A. M., Steward.

OLIVET COLLEGE—ESTABLISHED IN 1844.

The devoted little colony that journeyed from Oberlin, Ohio, into the wilds of Michigan for the purpose of founding a college "for the education of young men and women, especially such as are not rich in this world's goods, but heirs to the Kingdom of God,"—for fifteen years worked under the name of Olivet Institute. But in 1859 a charter was granted and the Institute transformed into the College. The colony also established the First Congregational Church of Olivet, and the two

have builded and worshiped together, the College being governed by twenty-four trustees chosen from that denomination. There is a Classical, Philosophical, and Scientific Course, besides the Musical, Art, and Preparatory Departments, the latter including a Normal Course approved by the State Board of Education. Olivet is a small village in Eaton county, a little off from the railway line.

Officers of the Board.—President, Rev. Willard G. Sperry, Olivet; Secretary, Albert L. Lee, Olivet.

FACULTY AND OFFICERS.

WILLARD G. SPERRY, D. D., President, Drury Professor of Mental and Moral Philosophy.
JOSEPH L. DANIELS, D. D., Parsons Professor of Greek Language and Literature.
STEWART MONTGOMERY, A. M., Erwin Professor of Chemistry and Physiology.
WALTER E. C. WRIGHT, D. D., Professor of Evidences of Christianity and Applied Christianity.
GEORGE A. KNAPP, A. M., Stone Professor of Astronomy, Natural Philosophy, and Mathematics.
HUBERT LYMAN CLARK, Ph. D., Professor of Biology and Geology.
MISS FLORA BRIDGES, Principal of Young Women's Department.
MRS. LIZZIE E. BINTLIFF, Professor of Music and Director of the Conservatory of Music.
MISS GRACE ANNETTE GEORGE, B. Pd., Instructor of French and German Languages and Literatures.
THOMAS F. KANE, Ph. D., Professor of Latin Language and Literature, Principal of Preparatory Department.
THOMAS W. NADAL, Instructor in English Literature and Oratory.
GEORGE N. ELLIS, A. M., Instructor in Latin.
MISS M. IDA SWINDT, M. L., Instructor in Mathematics and History.
FREDERICK ARTHUR OSBORN, Ph. B., Instructor in Physics and Pedagogy.
EDWARD M. STONE, A. M., Instructor in Latin.
LUDWIG T. LARSEN, A. B., Instructor in Greek and English.
MRS. ESTELLA HALL READE, Teacher of Voice Culture and Singing.
JOHN B. MARTIN, Teacher of Violin and Orchestral Instruments.
MISS ANNIE E. TENNENT, Teacher of Piano, Organ and Theory.
MRS. ADA T. SMITH, Teacher of Piano and Voice Culture.
MRS. ANNE S. BATCHELLOR, Director of Art Department, Instructor in Painting and Drawing.
WILLIAM F. LYON, JR., Director of Gymnasium.
MARY AUGUSTA REEDER, Physical Instructor.
JOSEPH L. DANIELS, Librarian.
ALBERT L. LEE, Registrar and Clerk.

ACADEMIES AND SEMINARIES.

ACADEMY OF LADIES OF LORETTA OF THE INSTITUTE OF THE BLESSED VIRGIN MARY—ESTABLISHED IN 1898.

This Roman Catholic institution was incorporated late in 1898, and no data are available.

THE ACADEMIES OF THE SACRED HEART.

These two Academies were incorporated in 1888 and 1889, and are respectively located at Detroit and Grosse Point. As the name implies, they are conducted by the religions of the Sacred Heart, the instructors being strictly confined to members of this order. In compliance with a request, their names are not published.

AKELEY INSTITUTE—ESTABLISHED IN 1888.

This Institute is a school for the higher education of girls and is under the auspices of the Protestant Episcopal Church. The Board of Trustees includes fifteen members, Rt. Rev. Geo. D. Gillespie, Bishop of Western Michigan, being president.

The Institute was made possible by the generous gift in 1887, from Hon. H. C. Akeley, of Minneapolis, to Bishop Gillespie, of a block of land and large mansion at Grand Haven, an exceptionally healthful city on the eastern shore of Lake Michigan. The school is under Bishop Gillespie's supervision, and Miss Margaretta Cheyney as principal succeeds the Rev. James E. Wilkinson and wife, who have been in charge since the school was founded. Under her charge the same high standard of education will be maintained, and the same physical and moral care extended to the pupils.

Besides grammar grade studies, the work includes a College Preparatory and a Literary Course, with Business and Music Departments additional. A Juvenile Department is to be added. During the twelve years of its existence, this school has graduated about fifty students.

DETROIT FEMALE SEMINARY—ESTABLISHED IN 1859.

This Seminary is under the control of two lady principals, and endeavors to meet the demand for a school more thorough than the usual boarding school, yet less severe than a woman's college. The course runs through kindergarten, primary, intermediate and grammar grades, with a Preparatory and Collegiate Department of three years each. Both Smith and Wellesley Colleges receive its graduates without examination. It is located on Jefferson avenue, one of the most beautiful streets of Detroit, and is accessible from all parts of the city. Both home and day students are received.

FACULTY.

ELIZA F. HAMMOND, Principal, History of Art, Botany, English, Literature.
LAURA C. BROWNING, Principal, Psychology, Latin.
CLAIRE FORBES HAMMOND, B. A., Greek, Sciences, Mathematics.
RUTH WINIFRED LANE, B. A., Latin History.
MINNIE EADE, English, Algebra.
SUZANNE GREENE, French Language and Literature.
EMELIE MEINHARDT, German Language and Literature.
BLANCHE LOUISE STRICKLAND, Physical Training.
MARY NEWMAN, Arithmetic, Grammar and Intermediate Departments.
ETHEL A. MITTLEBERGER, Primary Department and Geography.
JEANNETTE FITCH, Drawing.

KINDERGARTEN DEPARTMENT.

MAUDE M. GILLET; MARY GILLET, Ass't; LUCY JOHNSON, Ass't and Accompanist for Gymnastics.

THE DETROIT SCHOOL FOR BOYS—ESTABLISHED IN 1890.

This school was founded for the purpose of giving to boys a complete mental and physical preparation for life, and has an advisory board of 16 members. The essentials of a common school education are not neglected, special attention is paid to preparation for college, certificates admitting to several of the leading universities. There are primary, intermediate, and secondary classes, and Manual and Athletic Training

is a regular part of the school work. It is located on Putnam Avenue, Detroit. Both day and home students are received.

FACULTY.

FREDERICK DEXTER GREEN, A. B., Greek, Latin, English.
FREDERICK EDWARDS SEARLE, A. B., Science.
EMMA DOAN, Primary Studies.
MARION A. CAMPBELL, Clay Modelling, Wood Carving, Drawing.
EMILE J. FERMIER, B. S., M. E., Mathematics, Shop Work.
CARL COPELAND PARSONS, A. B., Latin, Mathematics.
JOSEPH M. KREWER, B. L., B. S., French, Geography.
PERCY WALL JONES, B. L., History, English.
HARRIET WING LITTLE, Music, Primary Studies.
GEORGE H. MARTING, German, Greek.
HOMER ERWIN SAFFORD, Ph. B., M. D., Medical Examinations.

DETROIT HOME AND DAY SCHOOL—ESTABLISHED IN 1878.

This school was opened by Rev. J. D. Liggett and daughters, but in 1882 a number of persons united with them in its incorporation and the erection of suitable buildings. The Board of Trustees numbers seven. The course ranges from kindergarten to academic, special attention being given to preparation for college. Vassar, Smith, and Cornell admit graduates without examination, and Michigan University accredits upon an inspection every two years. The location is about a mile from the business center of Detroit, in a very pleasant part of the city.

INSTRUCTORS.

ELLA M. LIGGETT, A. B., Principal, English Literature, Algebra.
JEANNETTE M. LIGGETT, Associate Principal, Latin, 1st, 2d, 3d years, Greek and Roman History.
KATHARINE FLYNN, Spelling, Penmanship.
JANE A. PERINE, English in the Intermediate Department.
IDA F. SMITH, Geometry, History of Art.
SUSAN COREY, Piano.
SARAH P. HAVEN, Principal's Assistant in the Home Department.
IRENE C. FARQUAR, Kindergarten.
NELLIE A. McMILLAN, Accountant.
HELEN CHURCH, French in the Academic Department.
HELEN MITCHEL, Principal of the Primary Department.
LOUISE M. BREITENBACH, Ph. B., Latin 4th and 5th years, German in the Academic Department.
ELIZABETH M. FESSENDEN, Ph. B., Gr. of Allen Gymnasium, Boston, Director of the Gymnasium.
MABEL R. BROADWELL, Assistant in the Kindergarten.
JOAN VOSS, Primary Department, Number Work.
MRS. CLARA B. MERCUR, French in the Primary Department.
GRACE M. AUSTIN, German in the Primary Department.
CLARA V. SMITH, Intermediate Assembly Room, Arithmetic in the Intermediate Department.
ELIZABETH PRESTON, Academic Assembly Room, French History.
MARGARET M. SILL, Matron.
STUART A. COURTIS, Physics, Chemistry.
ANNIE K. DUNLAP, Primary Department, 1st and 2d years.
ELIZABETH BISHOP, A. B., A. M., Greek.
LOUISE B. STICKNEY, B. L., English in the Academic Department.
AGNES McRAE, Geography, English History.
FRANCES ARMSTRONG, Primary Department, 3d, 4th and 5th years.
ADELE FRUTIG, French in the Intermediate Department.
ELLA M. HANBEIL, German in the Intermediate Department.
MARGARET I. STEBBINS, Second Assistant in the Kindergarten.

DETROIT UNIVERSITY SCHOOL—ESTABLISHED IN 1899.

The furniture and equipment of this recently established school is entirely new. During the first year of its existence the membership averaged 150 students and the graduating class numbered 13. The Manual Training equipment was designed by Supt. Skinner, Director of that Department (formerly of the Toledo University Manual Training School), and is the best procurable. The school designs to furnish a thorough general and college preparatory education for boys, and special attention will be given to the primary grades, with a view to teaching right habits of study from the outset. As students will be prepared for any college or technical school in the country, the course of study is very flexible; it is conducted under three departments—primary, intermediate, and secondary. A wholesome hot luncheon will be served daily, or students living near may go home at noon. The school grounds front on Elmwood avenue, Detroit.

FACULTY.

FREDERICK LEROY BLISS, A. B., Principal, Geography, Latin.
HENRY GRAY SHERRARD, A. B., Associate Principal, Greek, Latin.
WILLIAM CHARLES SKINNER, Vice-Principal and Director Manual Training.
MYRA McPHERSON POST, B. L., English.
FRANCES EMIRA PEOCOCK, Librarian.
WALTER EDWARD SANDERS, A. B., Science, Mathematics.
JEANETTE LAMBIE ELLIOT, Mathematics, English.
ELLEN ANN KENNAN, A. M., Latin, History.
ANETTE BERTHA COLBY, Primary Department, English.
WALTER DWIGHT HERRICK, A. B., Mathematics, History.
STEWART ALFRED McCOMBER, A. M., Director of the Gymnasium.
FLORENCE GERTRUE TAYLOR, Vocal Music.
JAMES NESBITT ANDERSON, Ph. D., French, German.
ELEANOR IRENE McKAY, Primary Department.
SUZANNE GRENE, French, Intermediate Department.
KATE BEARD COCHRANE, Intermediate Department, English.
MABEL VIRGINIA BOOTH, Clay Modelling and Free-Hand Drawing.

MICHIGAN FEMALE SEMINARY—ESTABLISHED IN 1856.

This institution is under the auspices of the Presbyterian Synod of Michigan, and has a Board of 20 Trustees. Its course of study covers six years, four of college preparatory and two of advanced seminary work. The work of the former is based on the courses in the University of Michigan that lead to the degrees B. A., Ph. B., B. S. and B. L. That of the latter covers so far as possible the first two years in these courses in that institution. Elective courses may, however, be chosen. The Seminary stands on a high hill on the outskirts of Kalamazoo, and commands a fine view of this picturesque city and the fertile country surrounding it.

FACULTY.

REV. JOHN GRAY, D. D., President.
ELIZABETH EASTMAN, A. B., Principal, English.
CHARLOTTE T. HARRINGTON, A. B., B. S., Science, Mathematics.
MARY C. HENDERSON, A. B., Greek, Latin.
LAURA E. SHURTLEFF, Ph. B., History, Literature.
CONSTANCE E. B. WEBBER, French, German.
HENRIETTA P. AYRES, A. B., Preparatory Department.
GEO. H. FAIRSLOUGH.
ABBIE GEBHARD JOHNSON, Elocution.
ALICE E. CAMPBELL, Drawing, Painting.

MICHIGAN MILITARY ACADEMY—ESTABLISHED IN 1877.

The purpose of this school is three-fold—the development of a manly character, a preparatory college training, and the best known physical culture attained both through military drill and the gymnasium. Besides receiving a military training such as develops the desirable qualities summed up in three words—obedience, responsibility, and honor—students are prepared for all colleges or other educational institutions, including West Point and Annapolis. The Academy is conducted by Col. J. Sumner Rogers, its Board of Trustees numbering six. It has an ideal location at Orchard Lake, Oakland county.

A large number of graduates served with all the Michigan regiments, and all the recent army appointments from this State have been from the ranks of its alumni. In many other states, also, its former students have rendered distinguished services both in the volunteer and in the regular army.

ACADEMIC STAFF, 1899-1900.

COLONEL J. SUMNER ROGERS, Superintendent.
WILLIAM FRANKLIN EDWARDS, B. S. (University of Michigan), Principal, Science.
MAJOR WILSON G. S. LOWE, C. E. (Pennsylvania Military College), LL. B. (Washington University), Military Science.
THE REV. WILLIAM CLARK BURNS, Ph. M. (Hillsdale College), B. D. (Auburn Theological Seminary), Chaplain and Librarian.
RICHARD W. GROOM, LL. B. (Michigan University), Mus. B. (Mt. Union College), Director and Teacher of Music.
*ALBERT EUGENE CURDY, A. B. (Kansas University), French and German.
ALBERT GEORGE HEPPER, B. L. (Cornell University), English.
M. VICTOR STALEY, A. B., A. M. (University of Wisconsin), Ph. D. (Yale University), Greek and Latin.
ALLEN L. COLTON, A. B., A. M. (University of Michigan), Physical Science.
C. EVERETT CONANT, A. B., A. M. (Lawrence University), German and French.
HENRY LLOYD, B. S. (University of Kentucky), Mathematics.
ERNEST A. BALCH, A. M. (University of Michigan), Ph. D. (University of Chicago), History and Political Economy.
FREDERICK BARRY, A. B. (Harvard University), Biological Science.
ELMER L. FREEMAN, A. B. (University of Michigan), Greek.
LIEUTENANT CHARLES KLEIN LANDIS, Instructor in Cavalry.
FIRST LIEUTENANT GEORGE V. STRONG, Assistant Instructor in Cavalry.

NAZARETH ACADEMY—ESTABLISHED IN 1897.

This is a girl's school under the direction of the Sisters of St. Joseph of the Diocese of Detroit, and seven Sisters of this order compose the Board of Trustees. The course of study extends through Primary, Intermediate, Academic, and Collegiate Departments, with special attention paid to young ladies whose early education has been neglected. A business course is also provided. The school is pleasantly located on a farm of 160 acres on the highlands at Nazareth (address Nazareth P. O.), about one mile from Kalamazoo city.

FACULTY.

VERY REV. FRANK A. O'BRIEN, A. M., LL. D., Director.
REV. RICHARD W. GRACE, Chaplain.
REVEREND MOTHER M. ANTHONY, President.
SISTER MARY, Vice President and Directress of Studies.
SISTER M. LUCILE, Prefect of Discipline.
SISTER M. CALLISTA, Secretary.
SISTER M. IRENE, Treasurer.

*Granted leave of absence for 1900-1901.

RAISIN VALLEY SEMINARY—ESTABLISHED IN 1850.

This is one of Michigan's pioneer schools, and was established through the efforts of the Friends of Adrian Quarterly Meeting. Its Board of Trustees numbers sixteen. Its chief aim is "to develop strong, upright, cultured men and women, and intelligent citizens." There are four courses of study—English, Latin, Scientific, and Latin-Scientific, with a recently added Commercial Course. This Seminary stands in one of the pleasantest rural districts of Southern Michigan, four miles northeast of Adrian, Lenawee county.

FACULTY.

E. T. ARMSTRONG, Principal, Mathematics, Science, Commercial Department.
CELIA B. JONES, Preceptress, Languages, Literature and History.
ROBERT GLENN, Superintendent.
ELIZABETH GLENN, Matron.

ST. MARY'S ACADEMY—ESTABLISHED IN 1862.

This is a boarding and day school in the city of Monroe, conducted by the Sisters, Servants of the Immaculate of Mary. It was incorporated in 1890, is governed by a Board of Trustees elected annually, and is affiliated with the University of Michigan and the State Normal College. The Academic Department comprises seven courses, namely, Classical, Latin, Scientific, English, Commercial, Music and Art. The first four prepare for college courses leading to the degrees of A. B., Ph. B., B. S. and B. L.

The Preparatory Department comprises the elementary and grammar school grades. It includes the studies requisite for obtaining a teacher's third grade certificate.

Twenty-two parochial schools are conducted by this order in Michigan.

FACULTY.

MOTHER MARY JUSTINA, President and Prefect of Studies.
SISTER MARY AUGUSTINE, Directress of Young Ladies.
SISTER MARY ODILLA, Assistant Directress of Young Ladies.
SISTER MARY MARGARET, Directress of Juniors.
SISTER MARY FIDELIA, Principal of Academic Department.
SISTER MARY EVANGELISTA, Assistant Academic Department.
SISTER MARY LEONILLA, Commercial Department.
SISTER MARY ALPHONSINE, Preparatory Department.
SISTER MARY EUSEBIA, Junior Department.
SISTER MARY HELEN, Intermediate Department.
SISTER MARY PAULA, Primary Department.
SISTER MARY ANGELA, Music Department.
SISTER MARY SCHOLASTICA, Music Department.
SISTER MARY FLORENCE, Music Department.
SISTER MARY GRACE, Music Department.
SISTER MARY ANNETTA, Music Department.
SISTER MARY CLEMENS, Music Department.
SISTER MARY LOYOLA, Teacher of Elocution and Physical Culture.
SISTER MARY BLANCHE, Teacher of Art and French.
SISTER MARY GERMAIN, Teacher of Penmanship.
SISTER MARY ATHANASIA, Teacher of Art Needlework.

SEMINARY OF THE FELICIAN SISTERS—ESTABLISHED IN 1882.

This school is under control of five trustees chosen by the Order of Felician Sisters, and is located at Detroit. The Mother Superior, Mother Brunona Pydynkowska, is assisted by a corps of eight teachers.

SISTERS OF THE ORDER OF ST. DOMINIC.

In 1892 articles of incorporation were taken out by this order for the purpose of establishing an institution of learning in or near Grand Rapids, as also in other parts of the State. As yet the only academy opened is at Essexville, a few miles from Bay City. It is known as The Academy of The Holy Rosary and is presided over by Mother M. Aquinta. There are four instructors. During the coming year a day and boarding school for young ladies will be opened in Grand Rapids.

SPRING ARBOR SEMINARY—ESTABLISHED IN 1873.

This Seminary is controlled by the Free Methodist Church, and looks especially to the Conferences of Michigan, Indiana, Ohio, and Canada, for its support. The Board of Trustees numbers fifteen. There is a primary, intermediate and an academic department, with a three-year English Course, and Classical, Latin, and Scientific Courses, each requiring four years. A one-year course for Christian Workers is also presented, and the atmosphere of the school is decidedly religious. The location is at Spring Arbor, a small village about eight miles southwest of Jackson city.

FACULTY.

REV. DAVID S. WARNER, A. M., Principal, Latin and Greek.
REV. GEO. LAUBACH, A. B., Theology and Music.
MISS E. E. PRETTY, English and History.
PROF. D. J. BRENNEMAN, Science and Mathematics.
MISS BERTHA B. BASSETT, Intermediate.
MRS. M. S. BENN, Primary.

THEOLOGICAL SCHOOL OF THE HOLLAND CHRISTIAN CHURCH OF AMERICA—ESTABLISHED IN 1876.

This is a strictly theological school, and the work is confined absolutely to studies necessary for the ministry. The full course involves seven years, four in Preparatory and three in Theological Department. In the Literary Department a thorough classical and historical course is presented. The Board of Trustees includes twenty members, representing the states of Michigan, New Jersey, Illinois, Iowa, and Minnesota. The school is pleasantly situated in Grand Rapids, the county seat of Kent county and second largest city in Michigan.

FACULTY.

REV. G. E. BOER, Professor of History, Logic and Psychology, Hermeneutics, Biblical History and Natural Theology.
REV. G. K. HEMKES, Rector, Professor of Greek and Hebrew Languages and Literature, Biblical Languages and Literature, Church History and Christian Ethics.
REV. M. TEN HOOR, D. D., In Charge of Biblical Instruction, Professor of Systematic and Practical Theology.
A. J. ROOKS, A. M., Professor of English, German and American History. In Charge of Greek.
K. SCHOOLLAND, Professor of Holland, Latin and Literature.

URSULINE ACADEMY OF ST. IGNACE—ESTABLISHED IN 1897.

This is a recently established private Boarding and Day School under rule of the Roman Catholic Church, with six teachers and Mother Angela as its Superioress. It is located at St. Ignace, on the bluff overlooking the Islands and Straits of Mackinac. The academic year consists of two series of five months each. Languages—French, German, and Latin—receive especial attention; also both vocal and instrumental music.

PROFESSIONAL SCHOOLS.

DETROIT COLLEGE OF LAW—ESTABLISHED IN 1891.

Five trustees administer the affairs of this school, whose aim is to turn out both scholarly and practical lawyers, and great advantage is claimed through its situation in Michigan's metropolis, giving access to the various courts and libraries. The instructors are all regularly engaged in the practice of law. The course of study for the degree of LL. B. covers three years and includes not only the regular text-book exposition, but also the study of illustrative cases, criticism of briefs, drafting of contracts and other legal papers, conduct of causes in practice courts, etc.

Officers of the Board.—President, William D. Atkinson, Detroit; Secretary, Malcolm McGregor, Detroit.

FACULTY.

HON. CHARLES D. LONG, Justice of the Supreme Court of Michigan, President.
PHILIP T. VAN ZILE, LL. D., Dean of the Faculty; Elementary Law, Personal Property, Sales, Mortgages, Equity Pleading and Practice, Code Pleading, Bailments, and Common Carriers.
WILLIAM L. CARPENTER, LL. B., Judge, Third Judicial Circuit; the Law of Torts, Fraud and Damages.
ALFRED RUSSELL, LL. D., Jurisdiction and Practice of Federal Courts.
O'BRIEN J. ATKINSON, Judge Thirty-first Judicial Circuit; Law of Libel and Slander.
FRED A. BAKER, Constitutional Limitations.
GEORGE S. HOSMER, Judge, Third Judicial Circuit; Conduct of Law Suits.
R. A. PARKER, LL. B.; Patents and Copyrights.
WILLARD M. LILLIBRIDGE, A. M., Judge of Third Judicial Circuit; Michigan Constitution and Statutes, and Legal Ethics.
JASPER C. GATES, A. M., LL. B., Domestic Relations, Evidence, Real Estate, Trusts, and Law of Landlord and Tenant.
ELISHA A. FRASER, A. M., Contracts.
FRANK E. ROBSON, B. S., LL. B., Partnership, Insurance, Private Corporations, and Common Law Pleading.
JOHN W. BEAUMONT, B. S., LL. B., Equity Jurisprudence.
JOHN G. HAWLEY, A. B., Criminal Law and Criminal Procedure.

JOHN C. SHAW, LL. B., Admiralty.
WILLIAM H. WETHERBEE, LL. B., Conveyancing and Practice Court.
WM. M. MERTZ, A. B., Oratory.
HON. ALFRED J. MURPHY, Judge of Recorder's Court, Criminal Procedure.
FRED H. ALDRICH, Municipal Corporations.
MALCOLM McGREGOR, A. B., Personal Property, Sales.
CLARENCE A. LIGHTNER, A. B., Commercial Paper.

DETROIT COLLEGE OF MEDICINE—ESTABLISHED IN 1885.

The trustees of this College aim to furnish the best instruction and facilities for study in all branches of medical art. In addition to the regular Department of Medicine, there is a Department of Pharmacy and of Dental Surgery. As in law, so in medicine, Detroit is a desirable location on account of the opportunities afforded for a practical illustration of the subjects taught. Connected with this College are St. Mary's, Harper, and St. Luke's Hospitals, the House of Providence, the Woman's Hospital, also the Free Dispensary of St. Mary's, The Children's Free Hospital, Harper Hospital Polyclinic, and the Contagious Disease Building of the latter institution. Among other advantages afforded by these hospitals, is the fact that the twelve interne and ten externe physicians employed by them are annually supplied from the graduates of Detroit College of Medicine.

Officers of the Board—President, Sidney D. Miller, Detroit; Secretary, H. O. Walker, M. D., Detroit.

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DAVID INGLIS, M. D., Professor of Mental and Nervous Diseases.
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CHARLES G. JENNINGS, M. D., Professor of Practice of Medicine and Diseases of Children.
C. A. DAVENDORF, M. D., Professor of Obstetrics and Clinical Midwifery.
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*F. L. NEWMAN, M. D., Professor of Materia Medica and Therapeutics.
*A. W. IVES, M. D., Professor of Physiology and Clinical Assistant to Chair of Nervous Diseases.
S. G. MINER, M. D., Professor of Laryngology and Physical Diagnosis.
F. W. ROBBINS, M. D., Professor of Genito-Urinary Diseases.
A. P. BIDDLE, M. D, Lecturer on Dermatology
*ANGUS McLEAN, M. D., Lecturer and Demonstrator of Anatomy.
W. P. MANTON, M. D., Professor Adjunct of Obstetrics.
A. H. STEINBRECHER, M. D., Adjunct Professor of Practice of Medicine.
W. M. DONALD, M. D., Lecturer on Practice of Medicine and Clinical Medicine.
DON M. CAMPBELL, M. D., Lecturer on Diseases of the Eye and Ear.
*W. C. MARTIN, M. D., Lecturer on Histology and Assistant Demonstrator of Anatomy.
P. M. HICKEY, M. D., Lecturer on Pathology and Assistant in Physical Diagnosis and Laryngology.
C. A. LIGHTNER, M. A., Lecturer on Medical Jurisprudence.
JOHN LEE, M. D., Lecturer on Electricity and Clinical Assistant to Chair of Medicine.
C. W. HITCHCOCK, M. D., Assistant to Chair of Nervous Diseases.
*GEO. E. CLARK, M. D., Instructor in Chemistry.
F. B. WALKER, M. D., Registrar, Demonstrator of Operative Surgery.
*GEORGE L. FIELD, D. D. S., Professor of Clinical Operative Dentistry and Instructor in Continuous Gum Work.

*F. W. CLAWSON, D. D. S., Professor of Operative Dentistry and Dental Therapeutics.
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*G. S. SHATTUCK, M. D., D. D. S., Sec., Professor of Special Anatomy, Oral Pathology and Oral Surgery.
W. S. ANDERSON, M. D., Assistant to Chair of Laryngology.
G. L. KIEFER, M. D., Lecturer on Hygiene.
E. G. KNILL, M. D., Lecturer on Pathology and Morbid Anatomy.
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J. L. IRWIN, M. D., Instructor in Chemistry.
H. McEACHREN, M. D., Assistant Demonstrator of Anatomy.
J. N. BELL, M. D., Assistant Demonstrator of Anatomy.
A. C. LEE, M. D., Prosector of Anatomy.
DELOS L. PARKER, M. D., Lecturer on Materia Medica.
*CHAS. T. McCLINTOCK, M. D., Ph. D., Lecturer on Bacteriology.
E. MARK HOUGHTON, Ph. C., M. D., Lecturer on Experimental Pharmacology.
E. H. TROY, M. D., Lecturer on Biology.
*B. R. SHURLY, M. D., Lecturer on Physiology.
W. A. WILSON, M. D., Lecturer on Hydrotherapeutics and Clinical Assistant in Practice of Medicine.
P. C. McEWEN, M. D., Instructor in Embryology.
R. E. MERCER, M. D., Instructor in Physical Diagnosis.
G. W. IRVINE, M. D., Instructor in Chemical Laboratory.
G. KEMPF, M. D., Instructor in Chemical Laboratory.
W. A. REPP, M. D., Assistant to Chair of Gynecology of Clinic at St. Mary's Hospital.
H. R. VARNEY, M. D., Instructor in Dermatology.
J. A. ATTRIDGE, M. D., Instructor in Physical Diagnosis.
AUG. GORENFLO, M. D., Director of Harper Hospital Polyclinic and Instructor in Bacteriology.
W. G. HUTCHINSON, M. D., Children's Free Hospital, Prosector of Anatomy.
R. S. DUPONT, M. D., Prosector of Anatomy.
W. R. PARKER, M. D., Clinical Assistant in Ophthalmology.
I. L. POLOZKER, M. D., Clinical Assistant to the Chair of Diseases of Children.
J. E. EMERSON, M. D., Clinical Professor of Nervous Diseases.
J. K. GAILEY, M. D., Clinical Professor of Surgery.
H. W. LONGYEAR, M. D., Clinical Professor of Gynecology.
W. R. CHITTICK, M. D., Clinical Professor of Medicine.
R. W. GILLMAN, M. D., Clinical Professor of Ophthalmology and Otology.
G. E. FROTHINGHAM, JR., M. D., Clinical Professor of Ophthalmology and Otology.
F. W. MANN, M. D., Clinical Professor of Medicine.
CHAS. C. SHERRARD, Ph. C., B. S., Professor of Theoretical and Practical Pharmacy.
GEORGE SUTTIE, M. D., Ph. C., Professor of Botany.
FRANKLIN H. FRAZEE, Ph. C., Secretary, Professor of Materia Medica, and Instructor in Operative Pharmacy.
W. G. RANKIN, Ph. C., Professor of Pharmacognosy and Microscopy.
W. H. ALLEN, Ph. G., Instructor in Applied, Quantitative, and Qualitative Chemistry.
J. W. T. KNOX, Ph. C., Assistant Professor of Organic Chemistry.

DEPARTMENT OF DENTAL SURGERY.

The faculty of this Department includes all the above names marked with a star, and also the following:

T. J. COLLINS, D. D. S., Demonstrator of Crown and Bridge Work.
J. L. YOUNG, D. D. S., Lecturer on Operative Dentistry.
H. L. SCOTT, M. D., D. D. S., Lecturer on Dental Anatomy.
C. C. NOBLE, D. D. S., Lecturer on Prosthetic Dentistry and Dental Metallurgy.
J. S. HALL, D. D. S., Lecturer on Comparative Dental Anatomy.
G. H. LAU, D. D. S., Lecturer on Orthodontia and Care of Children's Teeth.

DETROIT HOMOEOPATHIC COLLEGE—ESTABLISHED IN 1899.

Michigan homœopaths have located their college at Detroit on account of the facilities for clinical study afforded by that city; and its students have access to Grace Hospital, one of the finest and most completely equipped hospitals in America. The course requires four years, and senior students are given actual charge of patients. The five trustees are all physicians, and the Advisory Board comprises fourteen representative men of Michigan.

Officers of the Board.—President, C. C. Miller, M. D., Detroit; Secretary, S. H. Knight, M. D., Detroit.

FACULTY.

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H. P. MERA, M. D., Vice Dean, Professor of Materia Medica and Clinical Medicine.
R. C. RUDY, M. D., Registrar, Professor of Obstetrics.
E. J. KENDALL, M. D., Assistant Registrar.
CHRISTOPHER C. MILLER, M. D., Professor of Theory and Practice.
B. H. LAWSON, M. D., Professor of Theory and Practice.
OTTO LANG, M. D., Professor of Theory and Practice.
W. R. McLAREN, M. D., Professor of Diseases of the Chest.
E. J. KENDALL, M. D., Professor of the Organon and Institutes of Medicine, and of Chemistry.
H. L. OBETZ, M. D., Professor of Operative and Clinical Surgery.
STEPHEN H. KNIGHT, A. M., M. D., Professor of Principles and Practice of Surgery and Clinical Surgery.
A. E. GUE, M. D., Professor of Principles of Practice of Surgery and Clinical Surgery.
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C. G. CRUMRINE, M. D., Professor of Gynecology.
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ALFRED GRAHAM, A. M., M. D., Professor of Mental and Nervous Diseases and Electro-Therapeutics.
GEORGE G. CARON, M. D., Professor of Paedology.
J. M. GRIFFIN, M. D., Professor of Dermatology.
C. G. CRUMRINE, M. D., Professor of Anatomy.
JAMES I. MURRAY, M. D., Instructor and Demonstrator of Anatomy.
JOHN VAN HEE, M. D., Instructor and Demonstrator of Anatomy.
ERNEST SPINNEY, M. D., Lecturer on Anatomy.
R. MILTON RICHARDS, M. D., Professor of Physiology.
H. MILLER-ROBERTSON, M. D., Professor of Physiology.
EZRA J. WARE, Ph. D., Professor of Chemistry and Director of the Laboratory.
R. M. McKENNA, Ph. G., Instructor in Chemistry.
F. V. HORNE, M. D., Lecturer on Pathology, Bacteriology and Histology.
H. P. MERA, JR., M. D., Lecturer on Pathology, Bacteriology and Histology.
DOUGLAS LONG, M. D., Professor of Sanitary Science and Hygiene.
JONATHAN PALMER, JR., LL. B., Professor of Medical Jurisprudence.
J. M. THOMPSON, D. D. S., Lecturer on Dental Surgery.

NON-RESIDENT LECTURERS.

O. E. PRATT, M. D., Ypsilanti, Mich.
D. J. SINCLAIR, M. D., Woodstock, Ont.
G. HENDERSON, M. D., Strathroy, Ont.
D. M. NOTTINGHAM, Lansing, Mich.

GRAND RAPIDS MEDICAL COLLEGE—ESTABLISHED IN 1897.

This College offers a course consisting of three eight-month terms, with an optional fourth year, and the instruction is by means of recitations, didactic and clinical lectures, and practical work in the laboratory and dissecting room. This city with its 900 manufacturing establishments and five hospitals, affords many facilities for clinical teaching. The College is located on East street, and has a Veterinary Department on the corner of Butterworth avenue and Indiana street.

Officers of the Board.—President, Clarence H. White, M. D., Grand Rapids; Secretary, H. E. Locher, M. D., Grand Rapids.

FACULTY.

E. G. EDWARDS, M. D., C. M., L. C., P. & S., L. C., Dean, Professor of Physical Diagnosis and Clinical Medicine, Widdicomb building.
JOHN E. BRADY, M. D., Associate Professor of Physical Diagnosis and Clinical Medicine, 31 Monroe street.
CLARENCE H. WHITE, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine, Porter block.
WILLIAM FULLER, M. D., C. M., Professor of Surgery and Clinical Surgery, 35 Monroe street.
LEONIDAS E. BEST, M. D., Professor of Fractures and Dislocations and Clinical Surgery, 6 Canal street.
JOHN W. RIECKE, M. D., Professor of Mental and Nervous Diseases and Clinical Medicine, 1 Jefferson avenue.
F. DUNBAR ROBERTSON, B. A., M. D., C. M., L. R. C. P. (Edinburgh), L. R. C. S.

(Edinburgh), L. F. P. & S. (Glasgow), Professor and Clinical Professor of the Principles and Practice of Ophthalmology, Otology and Laryngology, Pythian Temple.
L. H. CHAMBERLIN, M. D., Professor of Materia Medica and Therapeutics, 324 West Broadway.
J. S. EDWARDS, M. D., C. M., M. C., P. and S. Ont., Professor of Diseases of Children, Widdicomb building.
EARL BINGHAM, M. D., Professor of the Principles and Practice of Obstetrics and Clinical Obstetrics, Widdicomb building.
FRANCES A. RUTHERFORD, M. D., Professor of Hygiene, Sanitary Science and Preventive Medicine, 45 Sheldon street.
H. J. CHADWICK, M. D., Professor of Physiology, 1002 Fifth avenue.
FRANK J. LEE, M. D., C. M., Professor of Descriptive and Applied Anatomy, 35 Monroe street.
J. A. McPHERSON, M. D., Professor of Principles and Practice of Gynecology, 8 Canal street.
GEO. L. McBRIDE, M. B., Tor., M. D., C. M., Professor of Surgical Pathology, 141 E. Bridge street.
J. B. HILLIKER, M. D., Professor of Medical Pathology, 447 S. Lafayette street.
ALEX. MACKENZIE CAMPBELL, M. D., Professor of Bacteriology and Microscopy, 409 E. Fulton street.
G. PARKER DILLON, M. D., Professor of Dermatology and Genito Urinary Diseases, Porter block.
H. E. LOCHER, M. D., Professor of General Chemistry and Toxicology, 168 Ellsworth avenue.
C. M. KELLY, M. D., Professor of the Principles of Surgery and Clinical Surgery, Widdicomb building.
H. A. CATLIN, M. D., Professor of Histology, 70 Monroe street.
GEO. H. BAERT, M. D., Ph. C., Professor of Urinalysis and Gastro-Analysis, 51 State street.
O. E. HERRICK, M. D., Professor of Clinical Gynecology, 24 Fountain street.
M. E. ROBERTS, M. D., Professor of Orthopoedic and Rectal Surgery, Gilbert block.
W. J. DUBOIS, M. D., Associate Professor of Pathology, 40 West Bridge street.
C. M. DROSTE, M. D., Associate Professor of Dermatology, 171 South Jefferson street.
C. B. HERNAM, M, D., Clinical Professor Genito-Urinary Diseases, 72 Gilbert block.

LECTURERS AND DEMONSTRATORS.

ELTON P. BILLINGS, A. B., Lecturer on Chemistry, 260 Grandville avenue.
J. BYRON JUDKINS, Lecturer on Medical Jurisprudence, Widdicomb building.
ALDEN H. WILLIAMS, M. D., Demonstrator of Bacteriology, U. B. A. Hospital.
J. E. MALLETTE, M. D., Demonstrator of Pathology, 226 Turner street.

VETERINARY DEPARTMENT.

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JOSEPH B. WHINERY, Ph. C., M. D., Professor of Bacteriology, Histology and Microscopy.
R. R. SMITH, M. D., Professor of Didactic and Clinical Surgery.
M. T. BANASAWITZ, M. D., D. V. S., Professor of Materia Medica and Therapeutics.
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WILLIAM ROSE, V. S., Professor of Anatomy and Clinical Equine Surgery.
D. P. YONKERMAN, V. S., Kalamazoo, Professor of Hygiene, Breeding and Management of Domestic Animals.
COLEMAN NOCKOLDS, V. S., M. D., Professor of the Principles and Practice of Veterinary Medicine and Lecturer on Anatomy, Materia Medica and Therapeutics.
E. W. WELLS, V. S., Professor of Comparative Physiology.
HUGH E. WILSON, LL. B., Lecturer on Veterinary Jurisprudence.
GEORGE HARE, D. V. S., Allegan, Demonstrator of Anatomy.
ALVA SHERWOOD, B. S., D. V. S., Three Oaks, Professor of Obstetrics and Assistant to the Chair of Surgery.
A. W. OLDS, Ph. C., Lecturer on Chemistry and Urinalysis.

SAGINAW VALLEY MEDICAL COLLEGE—ESTABLISHED IN 1896.

In response to a widely expressed desire for a Medical College at Saginaw, a number of progressive business men organized and established one, erecting a $40,000 building. Four hospitals—Saginaw, the Woman's College, and St. Mary's—furnish practical advantages to the students, and the magnificent Hoyt Library is of no little value to them. The Saginaw Free Dispensary is entirely under control of the College. The course of instruction is by means of quizzes, lectures, clinics, and practical work in the dissecting room, laboratory, and hospitals.

Officers of the Board.—President, Harry T. Wickes, Saginaw; Secretary, Wm. Heim, Ph C., Saginaw.

FACULTY.

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B. B. ROWE, M. D., Vice President, Professor of Principles and Practice of Surgery and Clinical Surgery.
D. B. CORNELL, M. D., Secretary of Faculty, Professor of Diseases of the Eye, Ear, Nose and Throat.
EUGENE W. DAVIS, M. D., Professor of Surgery and Clinical Surgery.
F. W. EDELMANN, M. D., Professor of Diseases of Children.
SYLVESTER C. J. OSTROM, M. D., Professor of Mental and Nervous Diseases.
ROBERT McGREGOR, M. D., Professor of Electro-Therapeutics and Associate Professor of Mental and Nervous Diseases.
M. J. PURCELL, Attorney-at-Law, Professor of Medical Jurisprudence.
G. W. STEWART, M. D., Professor of Obstetrics.
O. P. BARBER, M. D., Professor of Principles and Practice of Surgery and Clinical Surgery.
R. W. ERWIN, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine.
M. C. L. KITCHEN, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine.
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HARRIET V. B. BROOKS, M. D., Professor of Bacteriology, Histology and Pathology.
C. W. TAYLOR GOODMAN, M. D., Professor of Sanitary Science and Preventive Medicine, and Adjunct to Chair of Gynecology.
WILLIAM HEIM, Ph. C., Professor of Chemistry and Urinary Analysis.
W. B. CUBBAGE, M. D., Professor of Principles and Practice of Medicine.
J. W. BLISS, B. S., M. D., Professor and Demonstrator of Anatomy.
R. CAMPBELL MACGREGOR, M. A., M. D., C. M., Professor of Physiology.
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J. M. CAMPBELL, M. D., Professor of Medical Jurisprudence.
HENRY J. MEYER, M. D., Professor of Anatomy.
H. C. WATKINS, M. D., Professor of Physical Diagnosis and Clinical Medicine.
W. L. DICKINSON, M. D., Professor of Rectal Diseases.
J. W. McMEEKIN, M. D., Professor of Clinical Surgery and Surgical Pathology.

SPRAGUE CORRESPONDENCE SCHOOL OF LAW—ESTABLISHED IN 1889.

This school, established by William C. Sprague, is by several years the oldest one of its kind in the country. It is in no sense a competitor of the University Law Schools, its sole purpose being to provide instruction for those who cannot afford the time or money to attend regular schools. The character of its instruction differs only in such particulars as are made necessary by the inability of the instructor to meet the student in person. The entire curriculum has been remodeled five times, and is now deemed permanent, offering three courses: Preparatory, Business Law and College, besides special courses on different branches of the law. The school occupies fourteen finely equipped rooms in the Majestic building at Detroit. Twelve assistants are employed by the following

BOARD OF CONTROL.

WILLIAM C. SPRAGUE, Detroit, President.
JUNIUS E. BEAL, A. B., Ann Arbor, Vice President.
GRIFFITH OGDEN ELLIS, LL. B., Vice Principal.
EMIL WILLIAM SNYDER, LL. B., Chief Examiner.
J. COTNER, JR., Financial Manager.

SCHOOLS WITH NORMAL AND BUSINESS COURSES.

BAY CITY BUSINESS COLLEGE—ESTABLISHED IN 1890.

This college was first established at Bay City as the "International Business College," by Messrs. Lane & Bowles, and conducted for seven years with Mr. Lane as Principal. In 1897 it absorbed two other schools

—the J. G. Lamson Private School and Devlin's Business College—and was incorporated as the "Bay City Business College." Its motto is "Learn to do by doing;" and students are taught by carrying on business operations, such as buying, selling, meeting liabilities, etc. The instructors are R. R. Lane, F. W. Bowles, R. Gillespie, and Miss A. Dowdell.

BENTON HARBOR COLLEGE—ESTABLISHED IN 1886.

This institution, which was at first conducted by Prof. Edgcumbe as a Collegiate Institute, was incorporated in 1892 under a board of seven trustees. Its aim is to prepare for both a business life and a collegiate course. The curriculum includes Collegiate, Academic, Preparatory, Teachers' Training, Business, Kindergarten, Elocution, Art, and Musical Departments. Physical culture receives much attention, both the Swedish and Delsarte systems being taught. Military drill is also a prominent feature, the cadets being uniformed after the West Point pattern and armed with Springfield rifles.

FACULTY.

G. J. EDGCUMBE, A. M., Ph. D., Principal, Pedagogy and Science.
MRS. V. C. EDGCUMBE, Lady Principal, Kindergarten.
J. H. NIZ, French and German.
MISS ALICE M. DONNELLY, Latin and Greek.
MISS CARRIE I. BILLINGHURST, English and Mathematics.
MISS LELIA M. CHILDS, Science and Mathematics.
MISS MARTHA BARBOUR, Elocution and Physical Science.
W. B. PARKER, Principal Business Department.
MISS JANE VAN ETTEN, Musical Director, Vocal Music.
MISS FLORENCE DICKINSON, Piano and Harmony.
MISS SADIE HESS, Art.
LIEUT. H. POUND, Military Drill.
MISS MILLIE EARLE, Assistant in Preparatory.
WM. WOODLEY, Assistant in Mathematics and English.
MILLARD SEITZ, Assistant in Business School.
JAMES ADAMS, Librarian.

CLEARY BUSINESS COLLEGE—ESTABLISHED IN 1883.

A beautiful and finely equipped building in the heart of Ypsilanti, Washtenaw county, is devoted to the work of this College. It contains three large business rooms, representing as many cities, each with offices for wholesaling, jobbing, banking, etc., so that the most business-like methods are employed for gaining a practical education. There are seven regular diploma courses, besides one two-year course and several special courses. The school was established in 1883 and incorporated in 1891, with a board of five directors, of which P. Roger Cleary is President.

FACULTY.

P. ROGER CLEARY, President, Business Practice, Correspondence, Commercial Law.
FRANK O. AUSTIN, Bookkeeping, Mathematics.
R. A. McDEVITT, Penmanship.
H. B. SMELLIE, Bookkeeping.
FRED R. SALWAY, Bookkeeping.
M. E. BENEDICT, English Grammar, Spelling.
ELIZABETH HATTON, Shorthand, Dictation.
MARGARET E. BENEDICT, Shorthand, Dictation, Typewriting.
CLARA E. DOTY, Shorthand, Dictation, Typewriting.
FRANCES B. HILL, Clerk, Office Practice.

FENTON NORMAL, AND COMMERCIAL COLLEGE—ESTABLISHED IN 1883.

The courses of this school are very flexible, its avowed aim being the development of the pupil, whatever his degree of advancement. It is divided into Normal and Business Departments. The school was first incorporated in 1883 as the "Fenton Normal School," but was reorganized in 1898 by its present principal, at which time the Commercial Course was added.

FACULTY.

W. A. STEVENSON, A. M., Ph. D., Principal, Pedagogy and Common Branches.
MRS. W. A. STEVENSON, B. L., Algebra, Orthography.
F. A. CHAPIN, B. A., History, Latin.
GEORGIANA BILBY, Latin, Arithmetic.
T. M. SHERMAN, B. S., Sciences, Higher Mathematics.
H. L. HOLMES, Business Branches.
NORA SHIPLEY, B. L., Greek, German and Literature.
D. S. FRACKELTON, LL. B., Commercial Law.
JENNIE TOWNSEND, Stenography.
W. H. KING, Telegraphy.
CARRIE RAMSDELL, Music.

FERRIS INSTITUTE—ESTABLISHED IN 1884.

This school is a monument to the pluck and perseverance of its organizer, after whom it is named. In 1893, after nearly a decade of untiring labor, its fine new building was erected, and the following year the school was incorporated. It is called "The People's College," and according to the catalog its mission is "to make the world better." Its courses are now arranged under the following heads: College Preparatory, Normal, Kindergarten, Elocution, Common English, Pharmacy, Commercial, Shorthand, Civil Service, Telegraphy, Typewriting. It is located at Big Rapids, a city of about 6,000 inhabitants, in Mecosta county.

FACULTY.

W. N. FERRIS, Methods, Rhetoric, Literature, Teachers' Arithmetic.
W. D. HENDERSON, Science.
C. A. WESSEL, Bookkeeping, Business Arithmetic, Commercial Law, Penmanship.
CHARLES CARLISLE, Elocution, Physical Culture, Vocal Music, Orthograhpy.
W. R. SMITH, Shorthand, Typewriting.
H. H. BARROWS, History, Geography, Geology, Drawing.
B. S. TRAVIS, Civics, Grammar, Spelling.
ROSE ANDERSON, Greek, Latin, Algebra.
GERRIT MASSELINK, Geometry, Trigonometry, German.
MRS. MARY BREEN, French.
S. B. NORCROSS, Arithmetic, Correspondence, Penmanship.
GERTRUDE TREIBER, Kindergarten.
CHESTER WILLIS, Telegraphy.

GRAND RAPIDS BUSINESS UNIVERSITY—ESTABLISHED IN 1866.

This is one of the few pioneer schools still existing. Established over thirty years ago by Prof. C. G. Swensburg as the "Grand Rapids Business College," in 1897 it was incorporated and the word College changed to University. It came under its present control in June, 1888, A. S. Parish being its president and manager. The science of accounts receives especial attention, and the work of the school is all directed along

lines in harmony with that of business offices. The location in the Norris building in Grand Rapids is an admirable one, being in the heart of commercial activity.

GUTCHESS SCHOOL OF BUSINESS AND SHORTHAND—ESTABLISHED IN 1896.

The Gutchess School, incorporated in 1900, is successor to the Gutchess College, established four years previous by Stephen and Sara Gutchess. Although so recently established, the school is admirably equipped for its work in point of location, apparatus, and instructors, and already enjoys a large share of patronage. The school occupies the second and third floors of the new Bamlet building, corner Griswold street and Grand River avenue, Detroit.

FACULTY.

STEPHEN D. GUTCHESS, Principal, Bookkeeping, Penmanship, Commercial Law, Business Forms and Customs.
WINFIELD S. OSBORN, Bookkeeping, Business Practice, Banking, Arithmetic, Penmanship, Business Correspondence, Grammar and Spelling.
GEORGE B. WITHEE, Shorthand, Typewriting, Business Forms and Correspondence, Spelling, Grammar.
WILLIAM ELSEY, Bookkeeping, Business Correspondence, Business Forms, Spelling, Arithmetic.
CLARA HYDE, Shorthand, Typewriting, Business Forms, Mimeographing, Carbon Work and Filing.
HENRY C. WALTERS, LL. B., of the Detroit Bar, Lecturer on Commercial Law, Municipal Government and Political Economy.
CHARLES A. BROWNELL, Lecturer on Advertising Methods.
ANNA D. WILLIAMS, Shorthand, Office Practice, Business Correspondence and Spelling.
BARR FLEMING, Shorthand, Grammar, Business Correspondence and Office Practice.
ELMER H. BEACH, Editor of the Bookkeeper, Lecturer on Expert Accounting and Auditing, Corporation Accounts and Joint Stock Companies.
M. L. MILLER, Typewriting, Business Forms, Mimeography, Carbon Work and Filing.
Assistants will be employed as needed.

INTERNATIONAL BUSINESS COLLEGE.

This school, established some fourteen or fifteen years ago, was incorporated under its present management in 1896. It occupies commodius and finely equipped quarters in the building originally erected for the general offices of the F. & P. M. railroad, in Saginaw city. The courses are all modeled after some business institution; and banking, railroading, and other lines of business are conducted as in actual life. The institution is under the management of Fred H. Harper, who is president of the Board of Directors and also of the Faculty.

LANSING BUSINESS UNIVERSITY—ESTABLISHED IN 1897.

This institution, located in the Capital City, offers the usual Commercial and Shorthand Courses. H. J. Beck is President and Treasurer, and the instructors are C. L. Beck, P. A. Johnson, H. J. Beck, with such other assistants as are necessary.

LUDINGTON BUSINESS COLLEGE—ESTABLISHED IN 1895.

This is another of those institutions designed to furnish a practical business education. It was incorporated in 1898 by Messrs. Martindill & Rose, and is located at Ludington, Mason county. Its courses are known as Commercial, English and Amanuensis.

THE MICHIGAN BUSINESS AND NORMAL COLLEGE—ESTABLISHED IN 1882.

This school claims to be "one of attainment, not of time." It occupies one entire floor of the fine Tacoma Block in Battle Creek and is equipped with banking department, shipping offices, wholesale department, commission house, etc. The "Cabinet Method of Actual Business Training" is employed, and its students are busily engaged with face to face transactions of the business world. It was incorporated in 1896, and reorganized in 1896. C. J. Argubright is president and manager; D. Sillers secretary and treasurer.

THREE RIVERS BUSINESS ACADEMY AND NORMAL SCHOOL—ESTABLISHED IN 1883.

This school, as its name implies, furnishes both a Business and Normal Course. It was incorporated in 1899 by Chas. H. Sage, its present principal. It is located at Three Rivers, a city of about 4,000, at the junction of the St. Joe, Rocky, and Portage Rivers, in St. Joseph county.

SUMMARY OF REPORTS

OF

Boards Appointed to Visit Incorporated Colleges Having Business Courses

FOR THE YEAR 1899-1900

SUMMARY OF REPORTS OF VISITING BOARDS REGARDING BUSINESS COLLEGES.

It is the purpose of this summary to give, in condensed form, the main facts set forth in the manuscript reports of the visiting boards, omitting any information found in Tables xxiv. and xxv., on pages 236 and 238. The reports from which this summary is made are on file in the office of the Superintendent of Public Instruction and may be seen by interested parties upon application at this office.

Visits to the International Business College at Saginaw, Bay City Business College at Bay City, and Lansing Business University at Lansing, were not made, and hence nothing regarding these schools appears in the summary. The Gutchess School of Business and Shorthand was not incorporated until late in the year, and as the visiting boards had then completed their reports for 1900, the work of this school was not inspected by this department.

BENTON HARBOR COLLEGE.

This institution lays special stress upon its literary department, but maintains Business and Commercial courses in which two teachers devote all their time to instructing classes in bookkeeping, penmanship, shorthand, and typewriting; the other subjects necessary for these courses are taught by teachers from the various departments of the college. The equipment for this part of the institution is worth $500. The local reputation of the school is excellent, the advertising modest and honest, and the general tone good.

BENZONIA COLLEGE.

Complying with instructions of the state department to visit these schools unannounced, the visit to Benzonia occurred during the spring vacation, and the actual class work of the institution could not be observed, but its buildings, library, museum, laboratory, and corps of instructors were visited and favorably passed upon.

It is estimated by the officers of the college that the present resources of the institution, consisting of lands in Benzie county to the value of $6,000, will be exhausted in two or three years, after which the maintenance of the college must depend upon private contributions. The high moral and intellectual tone of the community where this college

is located make it desirable for parents seeking an atmosphere of Christian influence for development of sons' and daughters' characters.

CLEARY BUSINESS COLLEGE.

This college owns a commodious, well-equipped building especially constructed for its department work, and situated on the principal business street of Ypsilanti. The presentation of this school and its work as set forth in its annual catalogue is fairly made and without exaggeration.

The institution has good standing in Ypsilanti, and students receiving the recommendations of its managers readily secure lucrative positions. Two courses are maintained, requiring from six to ten months for completion, according to individual capacity and previous education, no student being required to take the course in any specified time and the majority accepting positions before graduation.

THE FENTON NORMAL SCHOOL, COMMERCIAL COLLEGE, AND NATIONAL CORRESPONDENCE NORMAL COLLEGE.

This school occupies its own building, worth about $3,000, and has apparatus and furniture valued at $500. Local opinions as to the educational standing of the school varied, but all agreed that it was financially sound. The heavier work of the school must be its correspondence. as many of the classes numbered but one pupil, and as a consequence, the work observed lacked enthusiasm. The advertising is, by implication at least, misleading, as the average reader would expect a faculty of forty specialists to take charge of more than twenty-five pupils. However, the catalogue explains the way this faculty is employed. Since the visit of the committee was made the school has changed hands, and the present owners should not be judged for good or ill by the past.

FERRIS INDUSTRIAL SCHOOL.

The committee visitng this school reported complete satisfaction with the equipment, instructors, character of work done, financial standing, and general reliability of this institution. In accordance with instructions given, they paid particular attention to the work of the Business courses, and their report shows this department to be complete in every detail. The printed matter circulated by the management is in no respect overdrawn and the true educational spirit prevails.

GRAND RAPIDS BUSINESS UNIVERSITY.

There are taught in this institution, bookkeeping, commercial law, English, arithmetic, typewriting and stenography. Three teachers besides the proprietor constitute the corps of instructors. Each course requires about one year to complete, but no regular graduating exercises are held, as few ever finish a course. The rooms are neat and contain furniture and apparatus worth about $1,500. Nothing in the advertising appears exaggerated, and only favorable opinions as to local standing of the school were obtained.

—the J. G. Lamson Private School and Devlin's Business College—and was incorporated as the "Bay City Business College." Its motto is "Learn to do by doing;" and students are taught by carrying on business operations, such as buying, selling, meeting liabilities, etc. The instructors are R. R. Lane, F. W. Bowles, R. Gillespie, and Miss A. Dowdell.

BENTON HARBOR COLLEGE—ESTABLISHED IN 1886.

This institution, which was at first conducted by Prof. Edgcumbe as a Collegiate Institute, was incorporated in 1892 under a board of seven trustees. Its aim is to prepare for both a business life and a collegiate course. The curriculum includes Collegiate, Academic, Preparatory, Teachers' Training, Business, Kindergarten, Elocution, Art, and Musical Departments. Physical culture receives much attention, both the Swedish and Delsarte systems being taught. Military drill is also a prominent feature, the cadets being uniformed after the West Point pattern and armed with Springfield rifles.

FACULTY.

G. J. EDGCUMBE, A. M., Ph. D., Principal, Pedagogy and Science.
MRS. V. C. EDGCUMBE, Lady Principal, Kindergarten.
J. H. NIZ, French and German.
MISS ALICE M. DONNELLY, Latin and Greek.
MISS CARRIE I. BILLINGHURST, English and Mathematics.
MISS LELIA M. CHILDS, Science and Mathematics.
MISS MARTHA BARBOUR, Elocution and Physical Science.
W. B. PARKER, Principal Business Department.
MISS JANE VAN ETTEN, Musical Director, Vocal Music.
MISS FLORENCE DICKINSON, Piano and Harmony.
MISS SADIE HESS, Art.
LIEUT. H. POUND, Military Drill.
MISS MILLIE EARLE, Assistant in Preparatory.
WM. WOODLEY, Assistant in Mathematics and English.
MILLARD SEITZ, Assistant in Business School.
JAMES ADAMS, Librarian.

CLEARY BUSINESS COLLEGE—ESTABLISHED IN 1883.

A beautiful and finely equipped building in the heart of Ypsilanti, Washtenaw county, is devoted to the work of this College. It contains three large business rooms, representing as many cities, each with offices for wholesaling, jobbing, banking, etc., so that the most business-like methods are employed for gaining a practical education. There are seven regular diploma courses, besides one two-year course and several special courses. The school was established in 1883 and incorporated in 1891, with a board of five directors, of which P. Roger Cleary is President.

FACULTY.

P. ROGER CLEARY, President, Business Practice, Correspondence, Commercial Law.
FRANK O. AUSTIN, Bookkeeping, Mathematics.
R. A. McDEVITT, Penmanship.
H. B. SMELLIE, Bookkeeping.
FRED R. SALWAY, Bookkeeping.
M. E. BENEDICT, English Grammar, Spelling.
ELIZABETH HATTON, Shorthand, Dictation.
MARGARET E. BENEDICT, Shorthand, Dictation, Typewriting.
CLARA E. DOTY, Shorthand, Dictation, Typewriting.
FRANCES B. HILL, Clerk, Office Practice.

ABSTRACTS OF REPORTS

FROM

COUNTY COMMISSIONERS OF SCHOOLS

FOR THE YEAR 1899-1900

CONDENSED REPORTS OF COUNTY COMMISSIONERS.

GRADE EXAMINATIONS.

We are glad to note the continued popularity of these examinations, and quote the following to show the interest manifested:

Allegan county:

Two eighth grade examinations have been held, one in February and one in May. There were 450 pupils who wrote, of which number 185 passed and received diplomas. Nearly all schools having graduates held appropriate closing exercises. These were listened to by large and attentive audiences. Thus, much public sentiment was established in favor of good schools and their proper support. The commissioner was present and gave brief addresses at all of those whose dates did not conflict.

Barry county:

Two eighth grade examinations were held, attended by about 300 pupils. Of this number 77 received diplomas. Many of these young people will enter the various high schools of the county this year, and it is expected that they will acquit themselves creditably.

Many of the districts where pupils received diplomas held graduating exercises. These are profitable to both pupils and patrons when more attention is given to the preparation of the program and not so much to the matter of fine dresses and costly presents. Two townships have held school picnics, which were largely attended. Each school prepared some exercises, which were merged into one program. Both were very pleasant occasions.

Bay county:

We graduated thirty out of fifty this year, a dozen of whom will undoubtedly enter some of our high schools and one or two go to the Agricultural College. Our commencement exercises were held at four different places in the county, each section having its own class colors, flower, and motto; and the exercises were such as to make any one who had the pleasure of witnessing them proud of the public schools. In one instance these exercises were so well attended that there was not seating capacity.

Gratiot county:

The term examination questions have been used with excellent results. Two eighth grade examinations were held, one in February and one in May, at which there were 230 applicants, sixty-five of whom received the eighth grade diploma.

Manistee county:

Some of our eighth grade examinations are deserving of much praise. The graduating exercises are an incentive to better work. Speakers from other cities are invited, which gives zest to pupils, teachers, and patrons.

Mecosta county:

The eighth grade examinations are held simultaneously in eleven places in the county. A committee composed of the teachers having pupils writing, conducts the examination and the papers are forwarded at once to my office. The number of graduates has been greatly reduced, but the plan is very satisfactory, since it secures fairness and at the same time places the responsibility where it belongs.

Graduating exercises were held in several different parts of the county this spring. They were the most inspiring and enthusiastic meetings ever held in connection with our school work.

Arrangements have been made with the graded schools of the county to accept all pupils holding eighth grade diplomas without further examination, and the graduates of the ten grade schools are accepted in the same way by the Big Rapids high school. This plan has stimulated the primary schools to a greater degree of thoroughness, and has aroused in many pupils a desire for higher education.

Oakland county:

I am pleased to find so much interest manifested in completing the eighth grade work. Examinations were held in various parts of the county on the last Saturday of February and May. The examinations were conducted by the principals of our high schools and the work passed upon by the county board of examiners.

Schoolcraft county:

Grade examinations have been held in a few of the schools and the pupils show themselves able to cope with the questions sent out by the department. Each teacher is provided with the State Manual and requested to grade the school under his or her charge, as nearly as possible to the course of study there laid out.

Wexford county:

Our rural graduating exercises are becoming very popular, and I deem them very helpful in stimulating the older pupils to remain in school and complete the course of study. The commissioner has attended these exercises whenever it was possible and taken a part in the program.

READING CIRCLE.

That a large number have been interested in this work is shown by numerous reports, from which we cull the following:

Alger county:

The work of the Michigan Teachers' Reading Circle was taken up systematically this year for the first time. About 50 per cent of the teachers have been enrolled. Written answers to the questions furnished by the Board of Managers were filed in the commissioner's office and, upon satisfactory completion, certificates have been issued, which are recognized at examination and credit given in accordance with the recommendation of the State Superintendent.

Bay county:

Every teacher in this county, except one, has been a member of the teachers' reading circle, the county being divided into seven sections, in each of which sections the commissioner appointed a chairman to look after the immediate needs of that section and then, as often as possible, he was personally present. The books have been very helpful to all, and I am glad to see that the Board of Managers have again selected a book similar to the Hoosier School Boy; i. e., a book that can be used at opening exercises. The pupils have been so much interested in this book that as many as could find the time took it home and read it.

Branch county:

The general interest has never been better. The number doing the reading circle work is double that of any previous year, and the best of harmony exists between officers, patrons, and teacher.

Calhoun county:

It is with genuine pleasure, though not with complete satisfaction, that I review the teachers' reading circle record for the past year. There were eighteen local circles organized, thirteen of which held four regular meetings each and were well represented at the union meetings for a final review of the books. Many of the members of the five circles which failed to hold regular meetings, completed the work and submitted manuscript reviews. The total enrollment for the year was 167, and 139 completed the work creditably. One hundred five sets of books were purchased by teachers during the year, and I regard the addition of three volumes each year to the private libraries of the teachers as one of the most important of the benefits derived from the State Reading Circle.

Clinton county:

More than 100 teachers took a course in professional reading during this year. Sixty purchased the books of the State Reading Circle and accomplished fair results. We found it necessary, in order to give force and direction of the reading circle work, to place the subjects of our reading upon the programs of our teachers' meetings. In this way we gained very good results in the line of general culture. By this means also our teachers acquired a general knowledge of the State Course of Reading.

We feel that the reading circle as it exists and is today controlled is not doing all that it should do for the professional advancement of our young and inexperienced teachers. The crying need of the hour is for professional knowledge and skill. Our teachers, pupils, and patrons are crying for bread; but our State Course of Reading seems to indicate that general culture is sufficient for our needs. Clinton county will in future take such a course in reading as will give us knowledge of the fundamental principles of our profession, and provide us material for the practical work of the school room.

Delta county:

Many of the teachers in our district schools took up the reading circle work and made considerable progress along that line. All enjoyed the books and derived much benefit from them.

Gratiot county:

About seventy-five teachers took the reading circle work, and nearly all completed the same. Local circles were organized in nine places in the county, and the work was carried on in a systematic manner. A growing interest was manifested in the work.

Hillsdale county:

The reading circle has been very profitable. We have had 198 active members.

Jackson county:

The number who entered and completed the course of reading circle work greatly exceeded that of any previous year, all with one voice attesting the value of such work to themselves and their schools. Satisfactory work was presented in manuscript by seventy-four, in token of which fifty points were spread evenly over their topics on examination, if necessary to bring standings to the required average.

Keweenaw county:

While our teachers are not organized into circles, yet almost universally, I believe, the work is done privately. All of our teachers, with one exception, have purchased books for this year. I believe most of them enjoy doing this work, and should judge from questions answered at examinations that the books have been read.

Menominee county:

Many of our teachers have done the reading circle work and are enthusiastic in praise of the same.

Van Buren county:

Much attention has been paid to this work. Systematically conducted, I believe the reading circle one of the best factors in our educational work. It places the commissioner in touch with his teachers and their work. Further, it relieves the monotony of the "rehash" of educational papers and discussions. We have a live circle of nearly 200 members.

Schoolcraft county:

The teachers throughout the county are more interested in reading circle work than ever before. Credit is allowed upon examination for having creditably done the work. Applicants who can show satisfactory evidence of having pursued the course of reading marked out, are excused from writing on two subjects. These subjects are selected by the examining board and are those most nearly covered by the reading circle books.

LIBRARIES.

The day is surely approaching when a well-selected working school library will be deemed an indispensable adjunct of every graded school. These words from widely scattered localities show that interest in this matter is unabated:

Allegan county:

Of the 184 districts in the county, all but 67 have libraries. Some new ones have been established the past year, also some new books have been added to those previously established. But I am satisfied that the state constitution should be so amended as to prevent the use of library money for any purpose other than buying books. The selections in many instances have not been the best; these should be made by the teachers, assisted by the commissioner, and the books should be chosen with a view to supplementing the school work proper. I am a firm believer in the value of a well-selected district library, and shall, during the coming school year, work to secure one for every school.

Bay county:

This year we have been successful in putting into the schools of the county twenty-six $10 libraries, all the result of efforts of the teachers in securing the attendance at socials and entertainments of patrons and those interested in the cause of education.

Gladwin county:

Twelve district libraries have been started, an increase of three over last year. This does not seem much of an increase, still every library started before this has added new books this year, showing that they mean to keep up the interest. They have been pleased with results.

Iosco county:

As a rule, our schools have small libraries. The books are carefully selected by the teachers from those recommended in the State Manual and Course of Study, and are of great value in the work of the schools.

Jackson county:

Much interest has been shown in school libraries and, indeed, few schools are now without this means of education. Many works of art, such as engravings, statuary, and medallions, are now found in our school rooms and lend their influence toward the general uplift.

Mecosta county:

About fifty schools have started libraries. Twenty-one small libraries were given to schools for the part they took in our Educational Day exercises, and others have been purchased with money raised by socials and other entertainments.

Oakland county:

School libraries have become important factors in educational work. No one can estimate the influence of a well-selected library, with a sensible teacher to advise and suggest. A collection of books in every schoolroom for every-day use, is coming to be considered a most essential part of a school building's furniture. The best equipment we can give our young people for their work in life is such knowledge of books and their use as will enable them to go direct to sources of correct information and knowledge. This equipment can best be given, in fact it can only be given, to the average child, by the use of a school library. Many of our schools are already supplied with good working libraries, our teachers are waking up to the importance of the subject, and success along this line is confidently assured.

EDUCATIONAL MEETINGS.

Judging from the few counties that make any special mention of teachers' meetings other than the institute, it would seem that interest in these organizations is on the wane, though Bay county tells of two held at their county seat during the year at which the attendance and enthusiasm were fully up to the standard; and Calhoun county reports three enthusiastic meetings held at Marshall, Albion, and Battle Creek respectively, with an average attendance of 160 teachers and many patrons and school officers. These county associations were supplemented by six educational rallies of parents and patrons, attended by about 130 teachers and 100 patrons.

Oakland county held five interesting meetings of the county association that were well attended, and from Iosco county, with its widely scattered schools, there comes this report:

"We had two splendid meetings of the county association during the year just closed. The meetings were well attended, with much enthusiasm shown by those present. Five topics were ably discussed. In my opinion well conducted associations are of great educational value."

Commr. Harlow of Jackson county also reports two sessions of the county association, with a full attendance and much interest manifested; and Commr. Lightfoot tells of the interest aroused in Mecosta county by ten teachers' and patrons' meetings.

THE INSTITUTE.

As a rule the commissioners this year make little mention of this item. The reports of Alger, Barry, Clinton, Crawford, Delta, Grand Traverse, Iosco, Mackinac, and Schoolcraft counties are quite enthusiastic over the inspiration gained through their summer institutes; and Commr. Harlow of Jackson county says, "Our inspiration institute was all its name implies."

Commr. French notes the success of their April institute and thinks a week at that time worth three in July or August, while Commr. Erskine of Presque Isle county favors the winter institute because they are better attended at that time and the teachers can put new ideas into immediate practice.

Regarding the work of institutes in general, Commr. McDonald of Allegan county pertinently remarks:

"The institute has come to be a necessity. Greater demands are continually being made upon the teacher; to meet this she must frequently make special preparation. A few are able to drop their work for a year or more and take a course of study in some one of our higher institutions of learning, but the majority are not. The institute meets the needs of the latter class. It comes direct into the teachers' own county and furnishes her what she most needs at her own door."

Commr. Hitchcock of Bay county proposes the following innovation:

"It is my honest conviction that there should be an amendment to the present institute law so that the commissioner could have more to say as to the expenditure of the moneys raised for institute purposes. I believe that if the moneys could be spent for a course of four or five lectures during the year by such men as Dr. Hinsdale and Dr. Leonard and many others in the state connected with the various colleges, along the line of the work of education, something after the fashion of the University extension, the result would be a broadening of the teachers instead of a sort of cram to get ready for an examination."

SPECIAL DAYS.

That the interest in special day exercises aroused by the booklet issued from this department still continues, is shown by such testimony as the following from Keweenaw county:

"Most of our teachers make proper use of the special days. The suggestive special day programs sent out by the department have largely eliminated the difficulty of securing appropriate exercises. Arbor Day in particular is widely celebrated, and as a result many of the school grounds are tastefully set with shade and ornamental trees."

IMPROVEMENT OF GROUNDS AND BUILDINGS.

From the observance of Arbor Day there has sprung up a desire to render all the surroundings more attractive, as indicated by neat, well-kept fences and suitable outbuildings. Along this line we quote the following:

Charlevoix county:

There has been a general "slicking up" during the year; grounds cleaned up, trees planted, houses painted and kalsomined. Several dingy schoolrooms have been brightened up.

Eaton county:

School houses have been improved, grounds graded, and trees planted. Three brick houses have been built and equipped with new apparatus

and single seats, and two more school houses are now being built. Several schools have this year added to apparatus, so that all the best schools are now well supplied with globes, maps, charts, blackboards, etc.

Houghton county:

Many improvements in school buildings throughout the county during the past year are noticeable, and at Hancock they have commenced to enlarge and modernize their high school. The beautiful structure at Houghton, modern in plan and equipment in every particular, and which cost about $50,000, is nearly completed. Several other districts have finished comfortable buildings containing from one to four rooms.

Menominee county:

Seven new buildings have been erected during the past year. One is a model as to heating, ventilating, and lighting. It is built after the model—somewhat modified—exhibited by the State Superintendent of Public Instruction. Formerly a few feet of blackboard surface was thought sufficient; now the greater number of schools have blackboard all around the room. Formerly stained boards or slated plastering was thought economical; now it is conceded that real slate is cheapest and best. More attention is given to securing comfortable seats and their proper placing. The old seats are being replaced by handsomely finished, adjustable desks that render children comfortable, so that physical discomfort does not hinder mental progress.

Presque Isle county:

School houses in this county are nearly all frame buildings, set in well shaded grounds. During the last year many new structures have been erected, replacing the old log buildings. Every district in the county is adding to its supply of school apparatus as rapidly as means will permit. In no school can be found the old wooden forms, all being equipped with the new desks. Maps, a globe, and other necessaries are in the possession of all.

STATE MANUAL AND COURSE OF STUDY.

The warm words of commendation we are constantly receiving for this publication, and the almost daily demand for copies, make it a matter of extreme regret that we cannot issue another edition now that the last one is exhausted; but the new law makes no provision for such publications. Below are a few typical comments on the benefits derived from its use:

Alger county:

All our teachers make use of the State Manual and Course of Study. Questions based on the work therein are sent to the teachers every three months.

Allegan county:

The State Manual and Course of Study is placed in the hands of every teacher. It is made the guide for each grade's work and, when closely followed, makes a success of the effort to grade the rural schools. I regard it as the best help that has ever come to the district schools.

Gladwin county:

A copy of this very intelligent guide is in the hands of every teacher and is generally used. They often wonder how they ever managed without it. Too much cannot be said in praise of this very valuable outline. It is the chart and compass of every teacher, and good use is being made of it.

TEXT-BOOKS.

Several counties speak of text-books "of preceding generations" as one of the greatest drawbacks to the schools. Commr. Chew of Charlevoix county says:

"We are more and more convinced that the free text-book system in our schools would be of untold benefit. We have free text-books in one-fifth of our schools. We note that the attendance is better in those schools, and the teacher has better facilities for doing the work."

Commr. Hubbard of Menominee testifies to the same thing:

"More than half the schools are furnished with free text-books, and other districts are coming to realize the advantages of this plan and will in the near future furnish books free."

PROGRESS OF TEACHERS.

In the attainment of the required second grade certificates commendable progress has been shown. Even in the newer counties teachers have come up to requirements in this respect, Keweenaw county this year reporting not a single third grade, while in Alger county less than one-fourth hold third grade certificates. The large counties in Southern Michigan make a good showing in this regard, one good result of this advancement being that an increasing number of districts retain the same teacher throughout the year.

Nor has the scarcity of teachers, so direfully predicted as an outcome of the new law, been apparent in many localities. Even in the

large counties where at least 50 per cent of the applicants fail to pass examinations, a surplus of teachers is often found. For instance, in Allegan county where during last year only 156 out of 332 candidates received certificates, there yet remained 299 active teachers in the field, or 46 more than the entire number of schools. A similar condition prevails in most counties, though Branch county complains of being unable to furnish the requisite number of teachers, and the commissioner says that, in order to supply the demand, a number who are not qualified are "pushed through" and the schools in consequence are in some respects deteriorating. Wexford county meets the same condition in a different way by calling on the Central Normal and the Ferris Institute for help, and Commr. Slemons reports that these teachers have given such good satisfaction that they are all retained for another year.

That teachers in rural schools are fast coming to realize the need of professional training, is attested by such words as these from Jackson county:

"Our teachers feel the need of professional training and are awake to the benefits of the usual methods of improvement in this respect. A greater number from college, normal, and University, were found in our list than in any previous year. We are glad to note a decided change for the better in professional courtesy and interest."

MISCELLANEOUS.

Of the successful experiments reported along various lines we quote the following:

Jackson county:

A superintendents' meeting was held during the winter which brought good results toward uniformity of school work in village schools and laid the foundation for uniform text-books throughout the county, besides effecting a thoroughly organized county oratorical society, the object of which was to awaken an interest in debate and public speaking.

Bay county:

At the beginning of the present year, I decided upon the following plan to awaken a better school sentiment in the county, and the result has been very gratifying. My plan was this:

In each township in the county I held an old fashioned spelling school. We stood up and spelled down, each school in the township sending three of their best spellers to take part in the contest. These contests were well attended, people coming from far and near to witness the test. This gave the commissioner an opportunity to meet personally most every official of the district and counsel with them as to the best things for their individual school. The pupils winning at these several contests were given McMaster's U. S. History as a prize and the one winning in the township was to represent that township in a county contest. The county contest was held at Kawkawlin the latter part of April and was the most largely attended of any school affair that was ever held in the county. The winner in this contest was Bessie Church, a pupil of the seventh grade in school district No. 4, Gibson township, one of the most northern schools and one of the newest in the county.

The prize given at this contest was a $10 library, the prize to belong to the school which the winner represented. I know of nothing that has so completely awakened the school patrons of this county as have these spelling matches. It has set the people to not only talking about their schools, but to actually taking a half-day off and visiting the school. Not only that, but the result of it all will, I believe, be the organization of a county school officers' association. Health permitting, the commissioner expects next year to hold a series of township patrons and school officers' meetings, something after the plan of the spelling matches above referred to.

Gladwin county:

Last fall, at the street fair, an educational exhibit was provided, consisting of drawings of different kinds, penmanship, essays, etc., for the best of which prizes were given. It was more than successful in every way, and gave not only the contesting schools much benefit, but schools all over the county, seeing the beautiful work brought in, have an added interest in their work and a desire to do likewise.

I found, upon visiting them later, that almost every school in the county had something to show that was more or less the result of their seeing this work on exhibition. It gave them new ideas, and they were not slow in using them.

Manistee county:

The circulars on manual training sent out by the department are "taking root," being published in our city papers, talked at home, abroad, etc. It's the "little leaven" that's doing so much practical work.

In some of our schools we have introduced scientific sewing for an hour on Friday afternoon, which pleases pupils, and patrons as well; boys with knife work fill in their time. It takes an interested, persistent, thoughtful teacher. This next year we are in hopes to have it established in many more of the schools.

Menominee county:

In one of our township districts there was a locality with twenty children in it. The parents brought every pressure possible to bear on the members of the board to induce or compel them to build a school house in that neighborhood to accommodate these children. The board, after canvassing the matter thoroughly, decided to transport these children about three miles to the nearest village school. The parents opposed the plan by every conceivable objection, but the board thought they were right and went ahead. A suitable rig was hired to take the children to school in the morning and home in the evening, at what it would cost to hire a teacher, thus saving the interest on the money invested in building and furnishing a school house and the expense of keeping up the school and house.

The children attended school more regularly and had the advantages of a village graded school. Every one of the protesting parents are, after the year's trial, now as enthusiastic endorsers of the plan as they were opponents last fall. The board have decided to continue the same plan for that locality another year and inaugurate it in

another neighborhood in the same township. Other boards are discussing the feasibility of inaugurating the scheme. This is by far the best method of providing for the children of many localities, and I expect to see it come into more general use throughout the county.

GENERAL.

We give below a few statistics showing the condition of affairs in the prosperous county of Hillsdale, which has for nearly seven years been under the supervision of Commr. French:

Number eighth grade diplomas granted.....107
Number foreign pupils in high schools.....235
Number districts having libraries.....116
Number districts hiring teachers by the year.....115

We also add the encouraging words of Commr. Elliott as to general improvements in the schools of Oakland county as typical of the improvement throughout the entire state:

"The year has been one of progress and improvement for the schools of this county. Our teachers have labored hard to promote the general welfare of the schools, and their present condition is largely due to their loyalty, devotion and energy.

"I wish to say to you, that while I have been pretty actively interested in the schools of this county for the past twenty-five years in various capacities, I feel justified in saying that there never was a time when the teachers were doing as much good work for the schools and children as they are doing now. I find more teachers taking school journals, more teachers pursuing the reading circle course, more teachers seeking higher grade certificates and attending educational meetings, than ever before. We have not yet reached the goal, but we are proud of our rural schools, and our best efforts shall be to uplift the cause in which we are entered."

STATISTICAL TABLES.

STATISTICAL TABLES.

TABLE I.

Comparative summary of statistics for the years 1899 and 1900.

Items.	1899.	1900.	Increase.	Decrease.
Districts and schools.				
Number of townships and independent districts reporting	1,280	1,281	1	.....
Number of graded school districts	692	711	19	.....
Number of ungraded school districts	6,469	6,452	.....	17
Total	7,161	7,163	2	.....
Number of township unit districts	115	119	4	.....
School census of graded school districts	416,169	427,966	11,797	.....
School census of ungraded school districts	297,521	293,732	.....	3,789
Total	713,690	721,698	8,008	.....
Enrollment in graded school districts	293,942	301,275	7,333	.....
Enrollment in ungraded school districts	204,723	203,710	.....	1,013
Total	498,665	504,985	6,320	.....
Enrollment in graded school districts:				
Resident pupils	.....	301,275	.....	.....
Non-resident pupils	.....	9,651	.....	.....
Total	.....	410,926	.....	.....
Enrollment in ungraded school districts:				
Resident pupils	.....	203,710	.....	.....
Non-resident pupils	.....	7,755	.....	.....
Total	.....	211,465	.....	.....

TABLE I.—CONTINUED.

Items.	1899.	1900.	Increase.	Decrease.
Enrollment in all school districts:				
Resident pupils	498,665	504,985	6,320	.....
Non-resident pupils	17,273	17,406	133	.....
Total	515,938	522,391	6,453	.....
Percentage of attendance for the State	.....	68	.....	.....
Number of districts reporting having maintained school	7,091	7,124	33	.....
Average duration in months in graded schools	9.26	8.54	.....	.72
Average duration in months in ungraded schools	8.05	8.17	.12	.....
Average for the State	8.17	8.19	.02	.....
Number of districts furnishing free text books	685	737	52	.....
Number of private and select schools reported	397	441	44	.....
Number of men teachers in such schools	395	428	33	.....
Number of women teachers in such schools	802	961	159	.....
Estimated number of pupils attending such schools	45,568	52,239	6,671	.....
Teachers and their employments.				
Number of teachers necessary to supply graded schools	6,530	6,815	285	.....
Number of teachers necessary to supply ungraded schools	6,469	6,452	.....	17
Total	12,999	13,267	268	.....
Number of men teachers employed in graded schools	1,051	1,073	22	.....
Number of men teachers employed in ungraded schools	2,420	2,167	.....	253
Total	3,471	3,240	.....	231
Number of women teachers employed in graded schools	5,631	5,894	263	.....
Number of women teachers employed in ungraded schools	6,462	6,790	328	.....
Total	12,093	12,684	591	.....
Whole number of teachers employed in graded schools	6,682	6,967	285	.....
Whole number of teachers employed in ungraded schools	8,882	8,957	75	.....
Total	15,564	15,924	360	.....

TABLE I.—CONTINUED.

Items.	1899.	1900.	Increase.	Decrease.
Average number of months taught by men in graded schools	9.02	9.17	.15	.....
Average number of months taught by men in ungraded schools	6.33	6.30	.....	.03
General average	7.14	7.28	.14	.....
Average number of months taught by women in graded schools	9.46	9.45	.....	.01
Average number of months taught by women in ungraded schools	5.82	5.85	.03	.....
General average	7.52	7.44	.....	.08
Total wages of men teachers in graded schools	$665,527 28	$697,516 09	$31,988 81	.....
Total wages of men teachers in ungraded schools	437,559 17	399,366 72	.....	$38,192 45
Total	$1,103,086 45	$1,096,882 81	.....	$6,203 64
Total wages of women teachers in graded schools	$2,301,472 91	$2,422,957 15	$121,484 24	.....
Total wages of women teachers in ungraded schools	911,476 75	983,709 43	72,232 68	.....
Total	$3,212,949 66	$3,406,666 58	$193,716 92	.....
Aggregate wages of all teachers in graded schools	$2,967,000 19	$3,120,473 24	$153,473 05	.....
Aggregate wages of all teachers in ungraded schools	1,349,035 92	1,383,076 15	34,040 23	.....
Total	$4,316,036 11	$4,503,549 39	$187,513 28	.....
Average monthly wages of men teachers in graded schools	$70 17	$70 86	$0 69	.....
Average monthly wages of men teachers in ungraded schools	28 57	29 03	0 46	.....
Average monthly wages of men teachers in all schools	$44 48	$46 73	$2 25	.....
Average monthly wages of women teachers in graded schools	$43 20	$43 50	$0 30	.....
Average monthly wages of women teachers in ungraded schools	24 23	24 78	0 55	.....
Average monthly wages of women teachers in all schools	$35 35	$35 71	$0 36	.....
Examination and certification of teachers.				
Number of public examinations held	320	321	1	.....
Number of applicants for regular certificates	14,233	13,422	.....	811
Number of first grade certificates granted	158	144	.....	14
Number of second grade certificates granted	2,075	1,971	.....	104
Number of third grade certificates granted	5,185	4,744	.....	441
Whole number regular certificates granted	7,418	6,859	.....	559

TABLE I.—CONTINUED.

Items.	1899.	1900.	Increase.	Decrease.
Number of applicants for special certificates,....	1,006	1,055	49	.....
Number of special certificates granted.....	624	746	122	.....
Number of teachers who held State or Normal school certificates.....	945	1,925	980	.....
Number of city certificates granted.....	.....	2,069	.....	.....
Whole number of legally qualified teachers.....	11,988	15,313	3,325	.....
Number licensed without previous experience in teaching.....	2,132	1,887	....	245
Number of applicants who had attended State Normal school.....	604	734	130	.....
Number of applicants who had attended institutes during the year.....	4,249	3,796	.....	453
Number making teaching a permanent profession	6,803	8,038	1,235	.....
School property.				
Number of school houses.....	7,973	8,035	62	.....
Whole number of sittings in school houses.....	621,319	629,207	7,888	.....
Estimated value of property in graded school districts.....	$14,486,124 00	$15,045,291 00	$559,167 00	.....
Estimated value of property in ungraded school districts.....	5,260,319 00	4,292,882 00	.....	$967,437 00
Total.....	$19,746,443 00	$19,338,173 00	.....	$408,270 00
Number of districts reporting dictionaries in schools	6,617	6,571	.....	46
Number of districts reporting globes in schools..	5,698	5,802	104	.....
Number of districts reporting maps in schools...	6,378	6,320	.....	58
Total number of U. S. flags in school districts....	6,451	6,443	.....	8
Financial.				
Amount of one-mill tax received.....	$641,897 65	$649,012 05	$7,114 40	.....
Amount of primary school interest fund received.	1,020,283 12	1,030,538 89	10,255 77	.....
Amount received from non-resident tuition.....	86,949 47	87,277 89	328 42	.....
Amount received from district taxes.....	4,549,062 36	4,763,966 19	214,903 83	.....
Amount received from all other sources.....	362,607 46	608,496 49	245,889 03	.....
Total net receipts.....	$6,660,800 06	$7,139,291 51	$478,491 45	.....
Amount received from loans.....	519,243 11	619,277 19	100,034 08	.....
Balance on hand from preceding year.....	1,176,578 06	1,311,087 10	134,509 04	....
Total resources, including amount on hand from preceding year.....	$8,356,621 23	$9,069,655 80	$713,034 57	.....
Amount paid men teachers.....	$1,102,778 47	$1,096,480 93	.....	$6,297 54
Amount paid women teachers.....	3,209,466 75	3,405,027 85	$195,561 10	.....
Amount paid for building and repairs.....	760,097 74	1,127,329 18	367,231 44	.....
Amount paid for interest on loans.....	117,338 60	120,399 62	3,061 02	.....
Amount paid for all other purposes.....	1,466,803 48	1,548,453 87	81,650 39	.....
Total net expenditures.....	$6,656,485 04	$7,297,691 45	$641,206 41	.....
Amount paid on bonded indebtedness	378,536 02	420,275 40	41,739 38	.....
Balance carried to next year.....	1,321,600 17	1,351,688 95	30,088 78	.....
Total expenditures, including balance on hand	$8,356,621 23	$9,069,655 80	$713,034 57	.....

TABLE I.—CONTINUED.

Items.	1899.	1900.	Increase.	Decrease.
Total expenditures in graded school districts	$4,829,519 03	$5,390,152 59	$560,633 56	.....
Total expenditures in ungraded school districts.	1,826,966 01	1,907,538 86	80,572 85	.....
Total net expenditures	$6,656,485 04	$7,297,691 45	$641,206 41	.....
Total bonded indebtedness of districts	$1,964,616 94	$2,038,934 28	$74,317 34	.....
Total floating indebtedness of districts	212,738 31	206,071 66	.....	$6,666 65
Total indebtedness	$2,177,355 25	$2,245,005 94	$67,650 69	.....
Total indebtedness in graded school districts	$1,978,861 86	$2,044,679 82	$65,817 96	.....
Total indebtedness in ungraded school districts.	198,493 39	200,326 12	1,832 73	.....
Total indebtedness	$2,177,355 25	$2,245,005 94	$67,650 69	.....
Total amount due the districts	$327,538 59	$353,638 53	$26,099 94	.....
Amount received from non-resident tuition in graded school districts	.....	$86,435 92	.....	.....
Amount received from non-resident tuition in ungraded school districts	.....	841 97	.....	.....
Total	$86,949 47	$87,277 89	$328 42	.....
School libraries.				
Number of townships reporting libraries	431	426	.....	5
Number of districts reporting libraries	3,292	3,658	366	.....
Total number of libraries	3,723	4,084	361	.....
Number of volumes in township libraries	158,000	157,177	.....	823
Number of volumes in district libraries	723,813	809,590	85,777	.....
Total number of volumes in all libraries	881,813	966,767	84,954	.....
Amount of taxes voted for township libraries	$2,852 16	$2,080 82	.....	$771 34
Amount received from county treasurers for township libraries	11,015 45	8,975 92	.....	2,039 53
Number of townships diverting money to general school purposes	388	353	.....	35
Number of townships forfeiting library moneys.	413	450	37	.....
Amount paid for support of township libraries	$11,474 74	$9,913 55	.....	$1,561 19
Amount paid for support of district libraries	98,920 06	94,461 17	.....	4,458 89
Teachers' institutes.				
Number of State institutes held	67	80	13	.....
Number of men enrolled at such institutes	1,317	1,668	351	.....
Number of women enrolled at such institutes	5,097	5,977	880	.....
Total enrollment	6,414	7,645	1,231	.....

TABLE I.—CONCLUDED.

Items.	1899.	1900.	Increase.	Decrease.
Amount received from State treasurer for such institutes	$2,974 85	$2,646 10	.....	$328 75
Amount received from county treasurer for such institutes	11,257 36	9,036 04	.....	2,221 32
Total amount expended	$14,232 21	$11,682 14	.....	$2,550 07
Miscellaneous.				
Number of counties reporting county teachers' associations	68	59	.....	9
Amount of per diem received by examiners	$15,873 90	$17,052 15	$1,178 25	.....
Amount paid commissioners of schools	66,785 00	68,435 00	1,650 00	.....
Total compensation	$82,658 90	$85,487 15	$2,828 25	.....
Amount allowed by supervisors for expenses of county boards	$9,581 09	$10,434 69	$853 60	.....
Amount paid and due township inspectors for services	15,121 32	15,420 40	299 08	.....
Amount paid chairman of board of inspectors	31,280 99	32,069 61	788 62	.....
Total amount of primary school interest fund apportioned	$1,052,871 50	$1,531,857 45	$478,985 95	.....
Rate per capita, May apportionment	$0 50	$0 50	.....	.....
Rate per capita, November apportionment	1 00	1 65	$0 65	.....
Rate per capita for year	$1 50	$2 15	$0 65	.....

TABLE II.

Thirty and thirty-first semi-annual apportionment of the primary school interest fund.

Counties.	Apportionment made May 10, 1900, rate per capita 50 cents.			Apportionment made Nov. 10, 1900, rate per capita $1.65.		
	Whole number of children.	Number included in apportionment	Amount apportioned.	Whole number of children.	Number included in apportionment	Amount apportioned.
Totals	713,690	712,389	$356,194 50	713,833	712,523	$1,175,662 95
Alcona	1,995	1,970	$985 00	1,995	1,970	$3,250 50
Alger	1,360	1,360	680 00	1,360	1,360	2,244 00
Allegan	12,078	12,078	6,039 00	12,078	12,078	19,928 70
Alpena	6,807	6,779	3,389 50	6,807	6,779	11,185 35
Antrim	4,619	4,597	2,298 50	4,619	4,597	7,585 05
Arenac	3,345	3,318	1,659 00	3,345	3,318	5,474 70
Baraga	1,397	1,397	698 50	1,397	1,397	2,305 05
Barry	6,407	6,407	3,203 50	6,407	6,407	10,571 55
Bay	21,524	21,514	10,757 00	21,524	[b]21,514	35,498 10
Benzie	2,773	2,747	1,373 50	2,773	2,747	4,532 55
Berrien	13,810	13,810	6,905 00	13,810	13,810	22,786 50
Branch	6,821	6,806	3,403 00	6,821	6,806	11,229 90
Calhoun	11,944	11,922	5,961 00	11,944	11,922	19,671 30
Cass	5,754	5,730	2,865 00	5,754	5,730	9,454 50
Charlevoix	4,213	4,206	2,103 00	4,213	4,206	6,939 90
Cheboygan	5,157	5,151	2,575 50	5,157	5,151	8,499 15
Chippewa	5,233	5,219	2,609 50	5,233	5,219	8,611 35
Clare	2,703	2,646	1,323 00	2,703	2,646	4,365 90
Clinton	7,240	7,240	3,620 00	7,240	7,240	11,946 00
Crawford	702	630	315 00	702	630	1,039 50
Delta	6,471	6,430	3,215 00	6,471	6,430	10,609 50
Dickinson	5,414	5,414	2,707 00	5,414	5,414	8,933 10
Eaton	8,215	8,215	4,107 50	8,215	8,215	13,554 75
Emmet	3,857	3,841	1,920 50	3,857	3,841	6,337 65
Genesee	11,012	11,012	5,506 00	11,012	11,003	[a] 18,150 45
Gladwin	2,125	2,119	1,059 50	2,125	2,119	3,496 35
Gogebic	4,148	4,148	2,074 00	4,148	4,148	6,844 20
Grand Traverse	5,807	5,807	2,903 50	5,807	5,807	9,581 55
Gratiot	9,176	9,176	4,588 00	9,176	9,176	15,140 40
Hillsdale	7,684	7,663	3,831 50	7,684	7,663	12,643 95
Houghton	18,510	18,498	9,249 00	18,510	18,498	30,521 70
Huron	12,713	12,713	6,356 50	12,713	12,713	20,976 45
Ingham	10,870	10,870	5,435 00	10,870	10,870	17,935 50
Ionia	9,508	9,475	4,737 50	9,508	9,475	15,633 75
Iosco	3,567	3,531	1,765 50	3,567	3,531	5,826 15
Iron	1,974	1,974	987 00	1,974	1,974	3,257 10
Isabella	7,452	7,452	3,726 00	7,452	7,452	12,295 80
Jackson	11,904	11,834	5,917 00	11,904	11,834	19,526 10
Kalamazoo	10,800	10,800	5,400 00	10,800	10,800	17,820 00
Kalkaska	1,846	1,846	923 00	1,846	1,846	3,045 90
Kent	38,684	38,621	19,310 50	38,684	38,621	63,724 65
Keweenaw	783	783	391 50	783	783	1,291 95
Lake	1,604	1,581	790 50	1,604	1,581	2,608 65
Lapeer	8,831	8,831	4,415 50	8,831	8,831	14,571 15
Leelanau	3,564	3,564	1,782 00	3,564	3,564	5,880 60
Lenawee	12,999	12,999	6,499 50	12,999	12,999	21,448 35
Livingston	5,463	5,431	2,715 50	5,463	5,431	8,961 15
Luce	655	652	326 00	655	652	1,075 80
Mackinac	2,373	2,306	1,153 00	2,373	2,306	3,804 90
Macomb	10,757	10,757	5,378 50	10,757	10,757	17,749 05

[a] Less $4.50 overpaid, May, 1900.

TABLE II.—CONCLUDED.

Counties.	Apportionment made May 10, 1900, rate per capita 50 cents.			Apportionment made Nov. 10, 1900, rate per capita $1.65.		
	Whole number of children.	Number included in apportionment	Amount apportioned.	Whole number of children.	Number included in apportionment	Amount apportioned.
Manistee	9,491	9,486	$4,743 00	9,491	9,486	$15,651 90
Marquette	12,422	12,404	6,202 00	12,422	12,404	20,466 60
Mason	6,266	6,266	3,133 00	6,266	6,266	10,338 90
Mecosta	7,307	7,290	3,645 00	7,307	7,290	12,028 50
Menominee	8,866	8,866	4,433 00	8,866	8,866	14,628 90
Midland	5,049	4,985	2,492 50	5,049	4,985	8,225 25
Missaukee	2,684	2,670	1,335 00	2,684	2,670	4,405 50
Monroe	10,721	10,721	5,360 50	10,721	10,721	17,689 65
Montcalm	10,786	10,786	5,393 00	10,786	10,786	17,796 90
Montmorency	897	887	443 50	897	887	1,463 55
Muskegon	12,484	12,478	6,239 00	12,484	12,478	20,588 70
Newaygo	6,080	6,031	3,015 50	6,080	6,031	9,951 15
Oakland	11,190	11,167	5,583 50	11,190	11,167	18,425 55
Oceana	5,500	5,471	2,735 50	5,500	5,471	9,027 15
Ogemaw	2,335	2,269	1,134 50	2,335	2,269	3,743 85
Ontonagon	1,292	1,229	614 50	1,292	1,229	2,027 85
Osceola	5,846	5,833	2,916 50	5,846	5,833	9,624 45
Oscoda	329	309	154 50	329	309	509 85
Otsego	1,677	1,666	833 00	1,677	1,666	2,748 90
Ottawa	13,676	13,676	6,838 00	13,676	13,676	22,565 40
Presque Isle	2,535	2,535	1,267 50	2,535	2,535	4,182 75
Roscommon	441	373	186 50	441	373	615 45
Saginaw	26,714	26,714	13,357 00	26,714	26,714	44,078 10
St. Clair	17,469	17,469	[a] 8,689 50	17,469	17,469	28,823 85
St. Joseph	6,328	6,328	3,164 00	6,328	6,328	10,441 20
Sanilac	12,562	12,562	6,281 00	12,562	12,562	20,727 30
Schoolcraft	2,011	2,011	1,005 50	2,011	2,011	3,318 15
Shiawassee	9,069	9,056	4,528 00	9,069	9,056	14,942 40
Tuscola	11,606	11,606	5,803 00	11,606	11,606	19,149 90
Van Buren	9,475	9,475	4,737 50	9,475	9,475	15,633 75
Washtenaw	11,695	11,662	5,831 00	11,828	11,795	[b] 19,528 25
Wayne	99,199	99,199	49,599 50	99,199	99,199	163,678 35
Wexford	5,040	5,039	2,519 50	5,050	5,049	[c] 8,335 85

[a] Less $45.00 overpaid, May and Nov., 1899.
[b] Includes $66.50 deficiency, May, 1900.
[c] Includes $5.00 deficiency, May, 1900.

TABLE III.

General school statistics as reported by school inspectors for the year ending September 3, 1900.

Counties.	Number of townships and cities reporting.	Whole number of school districts.	Number of districts that maintained school.	Number of graded school districts.	Number of township unit districts.	Number of children between 5 and 20 years of age.	Number of children between 5 and 20 years of age that attended school.	Whole number of days of school.	Percentage of attendance.	Number of school-houses.	Whole number of sittings provided for in school houses.	Estimated value of school property.	Average number months' school.
Totals	1,281	7,163	7,124	711	119	721,698	504,985	1,167,459	68	8,035	629,207	$19,338,173	8.2
Alcona	11	27	27	1	1	1,980	1,453	4,353	63	30	1,737	$16,725	8.1
Alger	7	7	7	5	7	1,478	1,149	1,109	87	25	1,562	28,200	7.9
Allegan	24	184	184	19	.....	11,829	9,012	30,283	71	193	12,987	226,657	8.2
Alpena	8	28	27	4	5	6,929	3,676	3,668	75	60	3,788	111,269	6.8
Antrim	15	72	72	6	.....	4,875	3,768	11,162	58	78	4,543	91,550	7.7
Arenac	11	39	39	7	.....	3,475	2,558	5,883	65	41	3,099	44,936	7.5
Baraga	5	5	5	5	5	1,480	932	904	74	18	1,258	23,500	9.0
Barry	17	146	146	6	.....	6,246	5,087	23,590	71	149	8,411	186,010	8.1
Bay	16	68	68	6	1	21,675	12,636	11,012	63	87	12,617	527,032	8.1
Benzie	12	49	48	6	.....	2,856	2,352	7,077	69	51	3,227	69,340	7.4
Berrien	23	147	147	20	.....	13,971	10,814	23,657	72	159	13,619	385,920	8.0
Branch	17	129	129	6	.....	6,925	5,138	21,916	68	133	8,231	207,835	8.5
Calhoun	23	164	164	9	.....	12,328	9,568	27,700	74	180	12,843	542,550	8.4
Cass	16	112	112	5	.....	5,622	4,503	18,882	67	114	6,972	156,600	8.4
Charlevoix	15	68	65	6	.....	4,536	3,376	9,288	64	69	4,694	84,820	7.1
Cheboygan	16	54	54	5	3	5,357	3,518	7,699	66	67	4,113	88,500	7.1
Chippewa	13	48	48	3	6	5,982	4,202	6,801	67	70	4,556	155,823	7.1
Clare	16	51	50	3	.....	2,875	2,140	6,873	69	51	3,019	42,650	6.9
Clinton	16	129	129	9	.....	7,124	5,055	21,631	70	131	8,136	154,598	8.4
Crawford	6	23	16	1	1	726	538	1,710	58	21	1,074	21,175	5.3
Delta	14	27	26	8	6	6,906	4,496	3,969	65	58	4,549	144,775	7.6
Dickinson	8	8	8	4	6	5,719	4,350	1,458	77	26	4,478	176,950	9.1
Eaton	18	146	146	11	.....	7,968	6,615	24,286	77	155	9,722	195,275	8.3
Emmet	16	69	67	3	.....	4,236	2,808	9,498	65	70	3,682	45,635	7.1
Genesee	20	160	160	12	.....	10,957	8,539	27,411	70	170	12,513	370,084	8.6
Gladwin	13	37	35	3	1	2,229	1,542	5,573	63	38	2,077	31,200	8.0
Gogebic	7	7	7	3	5	4,936	3,674	1,322	69	24	3,860	203,600	9.4
Grand Traverse	14	67	67	6	1	6,047	4,433	10,026	67	72	5,118	195,275	7.5

Gratiot	18	132	132	12	.....	9,049	7,203	21,714	68	133	9,172	167,775	8.2
Hillsdale	19	166	165	15	.....	7,525	6,091	27,805	73	170	9,308	226,812	8.4
Houghton	13	31	31	19	2	20,516	13,423	5,608	72	65	13,529	338,750	9.0
Huron	26	114	114	18	.....	12,892	8,378	19,382	58	117	9,043	143,278	8.8
Ingham	17	137	137	10	.....	10,076	7,655	23,289	73	153	10,851	318,995	8.5
Ionia	18	143	143	12	.....	9,333	7,269	24,141	68	152	10,562	228,720	8.4
Iosco	13	26	26	7	1	3,650	2,487	4,068	67	31	2,810	32,640	7.8
Iron	8	8	8	7	8	2,278	1,825	1,328	67	29	2,109	45,325	8.3
Isabella	17	101	101	5	.....	7,352	5,169	16,445	64	107	7,021	106,525	8.1
Jackson	20	157	155	9	.....	11,785	8,718	26,661	70	173	11,666	406,603	8.6
Kalamazoo	17	138	138	13	.....	10,949	7,663	22,820	72	147	11,719	556,263	8.3
Kalkaska	12	50	50	2	.....	1,992	1,434	7,182	67	50	2,426	40,790	7.2
Kent	25	207	207	21	.....	38,599	24,856	35,111	65	246	29,473	1,499,540	8.5
Keweenaw	5	5	5	3	5	849	594	900	70	8	935	15,600	9.0
Lake	11	40	38	3	.....	1,523	1,089	5,417	59	42	1,841	26,175	7.1
Lapeer	19	135	135	13	.....	8,496	6,604	23,242	66	138	9,865	194,095	8.6
Leelanau	11	57	57	5	.....	3,683	2,485	7,902	65	57	3,144	49,765	6.9
Lenawee	24	197	197	19	.....	12,771	9,568	34,211	71	210	13,617	401,650	8.7
Livingston	16	135	135	6	.....	5,255	4,167	22,964	75	138	7,240	148,975	8.5
Luce	4	4	4	3	4	703	622	712	78	13	715	13,800	8.9
Mackinac	13	16	16	2	10	2,444	1,575	2,218	66	43	2,289	35,685	6.9
Macomb	15	115	115	14	.....	10,732	6,484	19,706	69	121	8,531	232,770	8.6
Manistee	13	59	57	9	.....	8,979	6,576	8,921	61	64	7,374	188,315	7.8
Marquette	19	19	19	17	15	12,817	8,487	3,369	80	63	9,306	378,950	8.8
Mason	14	63	63	5	.....	6,470	4,538	9,587	70	73	5,370	154,148	7.6
Mecosta	17	105	105	8	.....	7,048	5,345	16,317	63	106	7,008	117,593	7.8
Menominee	10	34	34	7	5	9,186	6,355	5,345	71	78	6,491	242,330	7.8
Midland	17	73	71	5	.....	4,917	3,509	10,816	63	77	4,525	86,522	7.6
Missaukee	13	51	51	4	.....	2,921	2,125	7,647	67	53	2,774	44,900	7.5
Monroe	16	139	139	9	.....	10,438	6,984	23,014	63	143	9,248	170,000	8.3
Montcalm	22	139	139	14	.....	10,396	7,925	23,479	65	144	10,459	166,560	8.4
Montmorency	6	7	7	4	5	930	649	983	68	24	1,031	16,700	7.0
Muskegon	19	91	89	9	.....	13,098	9,288	13,701	71	114	11,863	529,737	7.7
Newaygo	22	117	116	5	.....	6,022	4,616	17,121	62	116	6,484	96,375	7.4
Oakland	26	207	207	19	.....	11,055	8,398	35,001	69	214	13,181	322,935	8.4
Oceana	16	88	88	4	.....	5,172	4,121	13,710	63	88	5,526	97,542	7.8
Ogemaw	12	40	39	3	1	2,529	1,769	5,959	63	44	2,252	31,255	7.6
Ontonagon	9	9	8	4	8	1,582	1,296	1,273	66	30	1,667	31,078	8.0
Osceola	16	95	95	6	.....	5,986	4,629	14,903	62	95	5,859	104,220	7.8
Oscoda	3	12	11	1	1	367	271	1,532	69	22	709	6,550	7.0
Otsego	9	40	40	3	.....	1,757	1,130	5,825	62	41	1,966	33,575	7.3
Ottawa	17	122	122	27	.....	13,578	10,009	20,995	70	133	12,417	249,430	8.6
Presque Isle	11	34	33	3	2	2,917	1,486	3,718	64	37	2,523	29,670	5.6
Roscommon	7	13	11	1	.....	445	275	1,153	63	12	514	6,210	5.2
Saginaw	30	157	157	18	.....	26,937	17,419	26,750	65	181	20,262	814,547	8.5

TABLE III.—CONCLUDED.

Counties.	Number of township and city reporting.	Whole number of school districts.	Number of districts that maintained school.	Number of graded school districts.	Number of township unit districts.	Number of children between 5 and 20 years of age.	Number of children between 5 and 20 years of age that attended school.	Whole number of days of school.	Percentage of attendance.	Number of school houses.	Whole number of sittings provided for in school houses.	Estimated value of school property.	Average number months' school.
St. Clair	26	154	154	10	.....	17,525	11,789	26,192	66	174	14,367	$447,825	8.5
St. Joseph	18	123	123	9	.....	6,213	4,811	20,450	73	130	8,087	225,310	8.3
Sanilac	26	148	148	24	.....	12,177	9,461	26,461	67	147	11,744	146,628	8.9
Schoolcraft	9	13	13	3	4	2,066	1,676	2,022	75	27	1,812	62,200	7.7
Shiawassee	18	125	123	10	.....	8,866	6,965	21,439	68	127	10,024	284,900	9.5
Tuscola	23	149	149	13	.....	11,305	8,148	25,724	61	152	10,659	187,625	8.6
Van Buren	18	151	151	16	.....	9,453	7,273	24,674	67	153	10,950	238,890	8.2
Washtenaw	22	167	167	9	.....	12,223	8,417	28,306	72	178	11,605	506,450	8.5
Wayne	22	155	155	27	.....	101,161	61,798	27,285	65	230	51,430	3,451,880	8.8
Wexford	17	79	78	5	.....	5,219	4,176	11,418	67	82	5,309	118,906	7.3

TABLE IV.

Employment of teachers as reported by school inspectors for the year ending September 3, 1900.

Counties.	Number of teachers required.		Number of teachers employed.		Aggregate number of months taught.		Total wages of teachers.			Average monthly wages.	
	Graded schools.	Ungraded schools.	Men.	Women.	Men.	Women.	Men.	Women.	Total.	Men.	Women.
Totals	6,815	6,452	3,240	12,684	23,599	95,396	$1,096,882 81	$3,406,666 58	$4,503,549 39	$46 48	$35 71
Alcona	4	26	9	28	77	202	$3,284 00	$6,139 40	$9,423 40	$42 65	$30 39
Alger	30	2	7	30	55	250	3,320 00	10,775 50	14,095 50	60 37	43 10
Allegan	83	165	67	272	472	1,670	18,915 81	44,739 97	63,655 78	40 08	26 79
Alpena	52	24	7	98	55	700	3,762 00	23,501 45	27,263 45	68 40	33 57
Antrim	39	66	27	113	178	708	7,989 00	22,106 43	30,095 43	44 88	31 22
Arenac	23	32	13	49	92	340	3,549 20	9,747 00	13,296 20	38 58	28 67
Baraga	26	.....	8	19	75	176	5,320 00	7,675 00	12,995 00	70 93	43 61
Barry	44	140	78	205	439	1,144	15,005 14	28,492 05	43,497 19	34 18	24 90
Bay	193	62	39	224	315	2,150	19,273 85	81,853 05	101,126 90	61 19	38 07
Benzie	31	43	17	81	109	462	4,851 00	14,517 96	19,368 96	44 50	31 42
Berrien	152	127	77	227	591	1,799	28,164 44	61,639 02	89,803 46	47 66	34 26
Branch	58	123	58	193	385	1,230	14,616 56	32,588 30	47,204 86	37 96	26 49
Calhoun	153	155	52	324	424	2,386	20,363 90	75,660 46	96,024 36	48 02	31 71
Cass	49	107	63	135	448	932	16,814 95	27,622 21	44,437 16	37 53	29 64
Charlevoix	35	62	21	95	140	583	5,919 00	17,911 75	23,830 75	42 28	30 72
Cheboygan	37	49	27	81	195	570	8,204 80	18,824 75	27,029 55	42 08	33 02
Chippewa	52	45	25	92	185	718	9,459 62	27,577 88	37,037 50	51 13	38 41
Clare	17	48	15	70	101	378	3,903 50	10,118 50	14,022 00	38 64	26 77
Clinton	50	120	45	184	332	1,145	13,381 85	30,351 35	43,733 20	40 31	26 50
Crawford	9	22	3	26	18	148	965 00	4,686 00	5,651 00	53 61	31 66
Delta	82	19	15	94	109	759	7,429 05	31,531 05	38,960 10	68 16	41 54
Dickinson	72	4	7	79	63	685	6,945 00	34,392 02	41,337 02	110 24	50 21
Eaton	84	135	70	229	449	1,465	17,992 40	43,059 00	61,051 40	40 07	29 38
Emmet	34	66	20	118	102	662	4,666 05	20,586 24	25,252 29	45 74	31 10
Genesee	109	148	87	249	586	1,769	23,871 64	53,245 15	77,116 79	40 74	30 10
Gladwin	12	34	16	36	102	244	3,484 00	6,907 05	10,391 05	34 15	28 30
Gogebic	78	4	5	82	45	810	5,300 00	35,445 88	40,745 88	117 78	43 76
Grand Traverse	59	61	15	122	113	879	6,632 50	32,028 19	38,660 69	58 69	36 44
Gratiot	59	120	85	177	527	1,023	18,295 00	28,054 55	46,339 55	34 70	27 42
Hillsdale	68	151	82	220	500	1,408	17,798 40	35,608 18	53,406 58	35 59	25 29
Houghton	261	12	37	264	344	2,382	32,076 75	119,887 18	151,963 93	93 25	50 33

TABLE IV.—CONCLUDED.

Counties.	Number of teachers required.		Number of teachers employed.		Aggregate number of months taught.		Total wages of teachers.			Average monthly wages.	
	Graded schools.	Ungraded schools.	Men.	Women.	Men.	Women.	Men.	Women.	Total.	Men.	Women.
Huron	58	96	64	98	572	831	$21,931 68	$23,639 82	$45,571 50	$38 34	$28 44
Ingham	125	127	79	277	455	1,862	17,297 31	62,211 37	79,508 68	38 01	33 41
Ionia	94	131	64	225	451	1,556	16,981 00	42,606 64	59,587 64	37 65	27 38
Iosco	37	19	10	49	80	396	3,638 50	12,633 33	16,271 83	45 48	31 90
Iron	39	1	8	42	58	335	3,937 50	15,721 39	19,658 89	67 89	46 92
Isabella	32	96	30	126	226	871	8,447 20	24,602 60	33,049 80	37 38	28 25
Jackson	123	148	76	272	488	1,988	23,494 98	67,833 05	91,328 03	48 15	34 12
Kalamazoo	146	125	54	269	377	2,076	16,727 03	70,446 41	87,173 44	44 37	33 93
Kalkaska	9	48	24	53	149	276	5,176 75	8,351 52	13,528 27	34 74	47 45
Kent	466	186	104	580	810	5,157	43,030 99	233,807 66	276,838 65	53 12	45 34
Keweenaw	7	2	5	6	41	50	2,490 00	2,170 00	4,660 00	60 73	43 40
Lake	8	37	8	47	61	258	2,298 32	6,967 30	9,265 62	37 68	27 00
Lapeer	63	122	52	157	409	1,257	15,321 95	31,634 69	46,956 64	37 46	25 17
Leelanau	14	52	19	54	131	346	4,900 00	10,402 30	15,302 30	37 40	30 06
Lenawee	120	178	78	279	539	2,155	24,081 11	61,555 30	85,636 41	44 68	28 56
Livingston	37	129	69	199	390	1,074	13,067 00	24,306 63	37,373 63	33 51	22 63
Luce	15	1	2	22	20	157	1,950 00	5,758 00	7,708 00	97 50	36 67
Mackinac	14	14	13	48	69	313	2,847 50	11,281 25	14,128 75	41 27	36 04
Macomb	74	101	56	127	494	1,073	19,712 12	31,733 75	51,445 87	39 90	29 57
Manistee	109	50	29	145	238	1,206	13,527 30	43,675 44	57,202 74	56 83	36 21
Marquette	190	2	26	173	232	1,673	19,248 75	80,027 90	99,276 65	82 96	47 83
Mason	55	58	26	107	179	794	7,682 74	26,800 62	34,483 36	42 81	33 75
Mecosta	40	97	31	152	194	929	7,078 30	26,439 70	33,518 00	36 49	28 46
Menominee	109	27	22	129	179	1,115	11,277 50	45,336 52	56,614 02	63 00	40 66
Midland	25	68	19	101	133	609	4,821 25	16,996 78	21,818 03	36 25	27 91
Missaukee	16	47	28	61	183	337	6,684 50	9,768 07	16,452 57	36 53	28 98
Monroe	47	130	60	156	425	1,107	16,067 40	28,842 05	44,909 45	37 78	26 05
Montcalm	78	125	57	214	413	1,376	15,472 93	37,925 17	53,398 10	37 46	27 56
Montmorency	18	3	10	25	56	143	2,253 00	4,297 25	6,550 25	38 84	30 05
Muskegon	143	82	30	221	214	1,724	13,581 02	58,584 68	72,165 70	63 46	33 98
Newaygo	26	112	38	173	212	846	7,563 37	22,488 78	30,052 15	35 68	26 58
Oakland	108	188	67	256	571	2,080	24,396 17	55,151 22	79,547 39	42 73	26 51
Oceana	26	84	34	107	240	665	9,300 67	18,610 28	27,910 95	38 75	27 98
Ogemaw	11	37	13	39	99	275	3,584 00	7,961 15	11,545 15	36 20	28 95
Ontonagon	29	5	3	43	28	325	1,790 00	13,667 50	15,457 50	63 93	42 05
Osceola	39	89	37	133	268	808	10,344 85	24,169 47	34,514 32	38 60	29 91
Oscoda	4	11	3	22	17	86	571 00	2,357 00	2,928 00	31 23	27 41

Otsego	13	37	20	53	122	266	4,683 75	8,148 46	12,832 21	38 39	30 63
Ottawa	130	95	58	185	499	1,565	20,666 00	45,923 15	66,589 15	41 41	29 34
Presque Isle	9	31	22	22	124	108	4,688 03	3,216 20	7,904 23	37 80	29 78
Roscommon	3	12	4	12	19	56	780 00	1,392 92	2,172 92	41 05	24 87
Saginaw	273	139	75	371	611	3,278	36,110 65	119,689 78	155,800 43	59 10	36 51
St. Clair	128	144	51	248	412	2,071	18,140 75	66,049 40	84,190 15	44 03	31 89
St. Joseph	79	114	69	168	468	1,223	18,338 08	33,761 00	52,099 08	39 18	27 60
Sanilac	57	124	80	118	687	953	24,407 38	24,234 45	48,641 83	35 52	25 43
Schoolcraft	25	10	11	42	83	317	4,932 00	12,626 25	17,558 25	59 42	39 83
Shiawassee	94	115	69	202	476	1,414	19,856 30	40,748 67	60,606 97	41 72	28 82
Tuscola	58	136	48	177	385	1,359	14,538 50	35,201 50	49,740 00	37 76	25 90
Van Buren	81	135	70	184	552	1,321	20,447 55	37,047 72	57,495 27	38 43	28 04
Washtenaw	147	156	48	288	396	2,364	23,560 85	74,063 20	97,664 05	61 09	31 34
Wayne	1,056	128	138	1,065	1,285	10,378	104,244 29	607,683 62	711,927 91	81 12	56 55
Wexford	51	74	32	146	181	817	7,376 58	28,825 15	36,201 73	40 75	35 28

TABLE V.

Resources of school districts as reported by school inspectors for year ending September 3, 1900.

Counties.	Ordinary receipts.							Received from loans.	Money on hand Sept. 4, 1899.	Total resources including amount on hand and loans.
	One-mill tax.	Primary school interest fund.	Library moneys.	Tuition of non-resident pupils.	District taxes for all purposes.	Raised from all other sources.	Total net receipts.			
Totals	$649,012 05	$1,030,538 89	$116,733 64	$87,277 89	$4,763,966 19	$491,762 85	$7,139,291 51	$619,277 19	$1,311,087 10	$9,069,655 80
Alcona	$172 64	$2,962 95	$20 00	$10 00	$8,803 69	$1,780 01	$13,749 29	$41 42	$3,312 33	$17,103 04
Alger	842 09	2,036 51	.....	.....	26,292 25	125 00	29,295 85	.....	1,401 17	30,697 02
Allegan	12,130 38	18,120 59	1,746 13	2,464 64	59,923 96	1,817 57	96,203 27	3,215 01	35,333 77	134,752 05
Alpena	165 13	10,227 04	162 34	11 50	27,992 94	1,186 30	39,675 25	1,570 18	10,666 25	51,911 68
Antrim	2,429 92	5,922 67	244 92	205 90	38,866 76	2,598 10	50,268 27	5,728 50	12,176 25	68,173 02
Arenac	365 20	4,642 83	147 78	2 70	14,621 79	1,775 57	21,555 87	3,000 00	10,471 83	35,027 70
Baraga	13 04	2,093 00	102 20	.....	19,979 93	221 14	22,409 31	600 00	4,864 51	27,873 82
Barry	9,793 48	9,667 07	1,381 55	1,591 87	35,474 04	672 17	58,580 18	4,431 46	10,926 35	73,937 99
Bay	4,148 73	31,289 46	485 86	968 87	118,901 17	11,665 23	167,459 32	3,589 79	32,937 29	203,984 40
Benzie	1,410 94	3,721 40	193 51	207 63	23,258 41	1,708 21	30,500 10	3,846 00	4,522 99	38,869 09
Berrien	13,101 65	20,390 93	1,152 27	2,313 09	89,556 60	3,091 14	129,605 68	21,800 45	29,499 16	180,905 29
Branch	11,236 91	9,711 37	1,204 19	1,697 11	43,158 36	1,387 61	68,395 55	1,772 43	19,414 44	89,582 42
Calhoun	15,849 92	17,365 55	2,316 43	2,731 87	111,696 42	1,869 40	151,829 59	1,923 84	18,464 33	172,217 76
Cass	11,380 58	8,562 44	1,655 07	1,556 19	34,443 07	1,074 15	58,671 50	10,585 59	11,114 31	80,371 40
Charlevoix	1,642 71	5,693 69	125 59	225 72	26,553 67	1,753 96	35,995 34	4,153 30	7,703 30	47,851 94
Cheboygan	2,378 07	7,350 80	62 63	229 89	31,830 37	3,611 17	45,462 93	8,240 00	7,453 33	61,156 26
Chippewa	5,563 90	7,382 83	145 76	41 35	54,723 45	1,613 33	69,470 62	13,408 79	17,097 86	99,977 27
Clare	384 51	3,582 41	90 46	141 36	19,516 77	1,437 56	25,153 07	300 00	8,393 24	33,846 31
Clinton	11,717 94	10,632 72	1,026 93	1,959 09	31,045 40	1,459 73	57,841 81	1,352 57	15,554 32	74,748 70
Crawford	66 10	851 62	12 50	.....	6,555 10	1,022 39	8,507 71	.....	4,090 60	12,598 31
Delta	867 28	9,217 93	576 20	2 70	47,952 35	20,910 47	79,526 93	17,646 32	8,192 77	105,366 02
Dickinson	550 91	7,915 60	688 12	104 12	65,644 27	6,654 43	81,557 45	21,907 50	16,464 06	119,929 01
Eaton	15,153 36	12,467 42	1,218 81	3,448 70	48,035 22	1,356 80	81,680 31	3,230 55	14,163 26	99,074 12
Emmet	543 34	4,651 31	367 82	228 42	33,359 55	3,019 38	42,169 82	1,428 19	8,630 75	52,228 76
Genesee	20,522 25	16,453 78	2,116 91	3,698 07	79,763 97	1,884 91	124,439 89	5,982 36	15,347 96	145,770 21
Gladwin	631 79	2,882 56	110 77	133 57	9,209 68	4,073 57	17,041 94	974 00	3,243 69	21,259 63
Gogebic	6,836 11	5,729 00	237 00	375 00	64,041 72	5,556 13	82,774 96	10,631 31	43,105 68	136,511 95
Grand Traverse	4,614 83	7,439 80	408 85	892 08	46,568 67	3,290 39	63,214 62	2,961 35	25,793 81	91,969 78
Gratiot	8,767 89	12,717 52	1,335 29	982 53	39,605 60	3,038 01	66,446 84	9,459 69	17,445 77	93,352 30
Hillsdale	15,610 88	11,292 00	1,427 67	2,384 47	40,127 76	1,027 73	71,870 51	6,688 76	11,925 83	90,485 10
Houghton	48,280 24	26,952 36	1,189 56	1,414 10	185,623 23	19,419 34	282,878 83	79,989 67	80,978 76	443,847 26
Huron	6,840 44	18,699 18	618 68	456 64	40,936 40	1,813 35	69,364 69	2,989 52	12,766 92	85,121 13

Ingham	18,932 83	15,862 58	1,842 36	2,564 57	82,102 09	1,383 94	122,688 37	7,342 31	34,433 92	164,464 60
Ionia	12,277 20	13,742 32	1,356 98	2,723 29	56,206 35	7,936 20	88,172 34	572 22	23,009 62	111,754 18
Iosco	514 48	5,047 09	7 00	.....	14,598 01	2,115 86	22,282 44	.....	6,085 01	28,367 45
Iron	298 35	2,999 29	251 97	25 98	27,764 53	2,630 13	33,970 25	8,912 07	3,569 46	46,451 78
Isabella	4,163 24	10,729 55	297 75	171 00	29,992 51	2,902 43	48,256 48	4,941 35	7,945 68	61,143 51
Jackson	20,808 25	17,633 08	2,702 89	2,372 68	83,176 51	1,355 09	128,048 50	1,349 96	16,168 14	145,566 60
Kalamazoo	12,041 48	16,156 49	1,382 82	2,841 51	109,272 51	996 62	142,691 43	27,262 69	15,804 55	185,758 67
Kalkaska	1,849 12	2,426 06	53 66	54 16	15,220 17	2,380 69	21,983 86	4,536 36	5,598 26	32,118 48
Kent	44,884 12	57,152 30	3,676 04	2,841 08	302,534 86	8,182 60	419,471 00	8,193 25	102,859 55	530,523 80
Keweenaw	5,509 40	940 50	51 46	.....	2,716 37	.....	9,217 73	1,800 00	6,019 52	17,037 25
Lake	579 10	1,747 96	63 43	26 01	8,951 19	1,813 19	13,180 90	115 00	5,426 58	18,722 48
Lapeer	10,019 84	13,248 35	977 99	2,491 28	35,896 22	1,052 83	63,686 51	6,791 70	13,292 98	83,771 19
Leelanau	1,022 80	5,049 29	228 51	57 60	14,309 08	2,175 47	22,842 75	5,611 85	4,003 34	32,457 94
Lenawee	25,669 68	19,390 74	2,061 86	3,970 52	67,281 84	2,219 09	120,593 73	4,242 55	22,122 70	146,958 98
Livingston	12,188 05	7,792 73	863 46	1,710 31	24,139 17	950 09	47,643 81	446 50	11,073 24	59,163 55
Luce	358 10	440 50	253 50	.....	14,817 31	117 05	15,986 46	.....	3,568 55	19,555 01
Mackinac	780 45	3,331 89	84 30	8 25	16,449 71	2,305 60	22,960 20	3,000 00	4,326 86	30,287 06
Macomb	16,090 04	16,143 45	1,850 28	2,072 56	36,374 21	727 91	73,258 45	6,032 38	17,414 18	96,705 01
Manistee	5,703 55	13,732 20	727 86	504 88	64,545 10	1,563 42	86,797 01	9,347 67	10,114 16	106,258 84
Marquette	9,150 92	18,854 25	648 35	42 00	130,345 92	50,031 53	209,072 97	64,198 44	17,383 29	290,654 70
Mason	2,641 22	8,807 18	162 77	434 43	39,325 33	1,035 82	52,406 75	2,050 00	10,259 26	64,716 01
Mecosta	1,905 31	10,338 31	649 32	195 55	32,370 54	4,159 79	49,318 82	914 42	22,116 20	72,349 44
Menominee	3,731 31	11,837 67	8 64	130 30	73,947 41	2,818 83	92,474 16	5,723 93	9,660 84	107,858 93
Midland	1,741 45	7,449 68	279 03	95 06	21,638 55	5,398 35	36,602 12	46 44	11,497 90	48,146 55
Missaukee	884 55	3,426 85	117 09	20 02	22,322 41	1,208 43	27,979 35	4,220 92	6,474 69	38,674 96
Monroe	14,959 05	15,871 60	2,349 90	1,175 12	26,255 99	1,983 13	62,594 79	3,892 28	8,932 84	75,419 91
Montcalm	6,279 75	14,740 45	818 45	1,527 40	43,768 59	2,310 33	69,444 97	2,071 24	21,909 74	93,425 95
Montmorency	272 51	1,216 36	90 82	55 00	9,567 14	1,962 70	13,164 53	.....	741 12	13,905 65
Muskegon	7,485 13	18,099 50	318 93	426 00	67,428 46	25,447 52	119,205 54	26,405 70	17,520 75	163,131 99
Newaygo	2,535 70	8,165 23	196 74	246 00	26,586 66	3,341 43	41,021 76	212 71	11,975 66	53,210 13
Oakland	21,635 98	16,328 40	2,813 18	4,078 96	67,747 91	1,224 01	113,828 44	1,499 01	16,231 00	131,558 54
Oceana	2,523 70	7,843 23	210 76	357 43	24,341 50	1,051 37	36,327 99	1,435 00	13,424 11	51,187 10
Ogemaw	252 64	2,424 19	86 80	46 50	13,086 69	1,910 68	17,807 50	650 00	4,785 81	23,243 31
Ontonagon	1,309 51	1,564 00	.....	.....	25,283 97	2,391 01	30,548 49	9,700 00	2,587 74	42,836 23
Osceola	2,998 89	7,975 15	561 96	305 41	34,643 39	3,869 57	50,352 37	649 92	11,672 70	62,674 99
Oscoda	115 77	514 78	.....	.....	2,309 47	841 20	3,871 22	.....	591 41	4,462 63
Otsego	751 87	1,799 52	228 84	70 83	15,464 48	1,479 59	19,795 13	525 00	6,444 83	26,764 96
Ottawa	8,943 88	20,656 15	1,550 28	539 26	64,858 69	2,045 62	98,593 88	6,815 48	18,136 23	123,545 59
Presque Isle	506 88	3,410 01	9 35	.....	9,841 44	522 53	14,290 21	10,957 88	2,813 36	28,061 45
Roscommon	150 28	427 50	.....	12 00	1,675 51	485 05	2,750 34	20 00	1,201 77	3,972 11
Saginaw	8,558 89	38,271 44	855 47	1,456 39	189,033 86	4,184 57	233,360 62	5,303 54	23,120 34	261,784 50
St. Clair	14,894 84	25,467 95	1,347 52	963 39	83,296 73	2,390 72	128,361 15	5,399 66	17,049 04	150,809 85
St. Joseph	11,783 27	9,495 38	1,041 54	1,905 68	43,597 79	890 25	68,713 91	7,910 22	8,322 69	84,946 82
Sanilac	7,440 06	18,584 29	636 86	620 19	40,592 37	1,095 03	68,968 80	7,150 76	16,383 16	92,502 72
Schoolcraft	687 90	2,824 60	.....	18 05	24,289 57	2,475 06	30,295 18	14,992 12	4,187 13	49,474 43
Shiawassee	12,264 07	13,322 27	1,031 10	1,566 69	60,348 64	1,336 33	89,869 10	8,922 70	19,608 50	118,400 30

TABLE V.—CONCLUDED.

Counties.	Ordinary receipts.							Received from loans.	Money on hand Sept. 4, 1899.	Total resources including amount on hand and loans.
	One-mill tax.	Primary school interest fund.	Library moneys.	Tuition of non-resident pupils.	District taxes for all purposes.	Raised from all other sources.	Total net receipts.			
Tuscola	$7,771 30	$16,811 37	$780 89	$1,308 56	$40,460 99	$1,715 76	$68,848 87	$3,180 00	$18,227 90	$90,256 77
Van Buren	11,954 96	13,772 55	1,526 65	2,798 07	48,444 56	2,251 00	80,747 79	5,113 06	15,298 23	101,159 08
Washtenaw	21,098 40	17,753 90	1,793 67	8,571 57	87,252 34	6,381 79	142,851 67	28,795 49	12,357 82	184,004 98
Wayne	31,894 94	143,782 17	54,995 99	3,254 97	831,595 30	195,098 78	1,260,622 15	27,926 86	109,766 21	1,398,315 22
Wexford	2,555 88	6,510 23	116 82	142 20	46,863 68	1,682 61	57,871 42	8,650 00	14,111 46	80,632 88

TABLE VI.

Expenditures of school districts as reported by school inspectors for the year ending September 3, 1900.

Counties.	Ordinary expenditures for maintaining the schools.							Paid on indebtedness (principal).	Amount on hand Sept. 3, 1900.	Total expenditures, including amount on hand and paid on indebtedness.
	Paid male teachers.	Paid female teachers.	Paid for building, repairs and site.	Paid for books and care of library.	Paid interest on loans.	Paid for all other purposes.	Total net expenses.			
Totals	$1,096,480 93	$3,405,027 85	$1,127,329 18	$94,461 17	$120,399 62	$1,453,992 70	$7,297,691 45	$420,275 40	$1,351,688 95	$9,069,655 80
Alcona	$3,284 00	$6,067 27	$641 41	.....	$30 58	$1,822 80	$11,846 06	$284 59	$4,972 39	$17,103 04
Alger	3,320 00	10,775 50	1,696 58	$287 07	527 55	5,567 18	22,173 88	1,000 00	7,523 14	30,697 02
Allegan	18,915 81	44,739 97	22,913 76	589 06	2,111 73	16,750 56	106,000 89	7,474 41	21,276 75	134,752 05
Alpena	3,762 00	23,471 21	12,082 34	675 35	139 74	6,691 50	46,822 14	917 84	4,171 70	51,911 68
Antrim	7,989 00	22,141 23	11,453 66	192 20	1,044 22	6,421 36	49,241 67	8,280 60	10,650 75	68,173 02
Arenac	3,549 20	9,611 51	9,178 33	90 99	383 14	3,660 37	26,473 54	1,559 87	6,994 29	35,027 70
Baraga	5,320 00	7,675 00	2,280 15	127 00	30 00	5,195 86	20,608 01	1,154 07	6,111 74	27,873 82
Barry	15,005 14	28,492 05	5,859 58	466 71	251 39	12,319 27	62,394 14	1,643 69	9,900 16	73,937 99
Bay	19,273 85	81,763 05	18,281 44	183 74	5,413 74	31,563 94	156,479 76	7,285 01	40,239 63	203,964 40
Benzie	4,870 85	14,477 96	1,956 91	158 11	1,651 65	3,134 23	26,249 71	7,929 20	4,690 18	38,869 09
Berrien	28,164 44	61,515 27	18,862 89	881 30	2,319 28	28,933 16	140,676 34	10,679 25	29,549 70	180,905 29
Branch	14,616 56	32,588 30	4,274 46	202 90	522 63	11,048 50	63,253 35	6,131 27	20,197 80	89,582 42
Calhoun	20,363 90	75,660 46	13,285 55	1,666 38	1,243 19	32,408 48	144,607 96	10,751 19	16,858 61	172,217 76
Cass	16,814 95	27,622 21	2,796 05	665 32	664 02	10,936 63	59,459 18	9,530 19	11,382 03	80,371 40
Charlevoix	5,919 00	17,823 75	4,622 71	15 00	1,475 41	5,099 66	34,955 53	2,234 65	10,661 76	47,851 94
Cheboygan	8,204 80	18,760 11	4,147 27	262 01	2,480 95	14,846 48	48,701 62	2,544 14	9,910 50	61,156 26
Chippewa	9,519 62	27,488 54	30,302 71	219 49	4,479 87	19,754 99	91,765 22	3,681 77	4,530 28	99,977 27
Clare	3,923 45	10,018 76	2,647 61	189 32	641 14	3,975 53	21,395 81	3,206 72	9,243 78	33,846 31
Clinton	13,381 85	30,351 35	6,556 18	230 93	95 70	9,838 24	60,454 25	684 31	13,610 14	74,748 70
Crawford	965 00	4,686 00	345 84	17 00	.....	1,581 22	7,595 06	.....	5,003 25	12,598 31
Delta	7,429 05	31,531 05	25,321 79	438 95	1,966 96	29,305 46	95,993 26	386 16	8,986 60	105,366 02
Dickinson	6,945 00	34,392 02	21,788 58	652 06	262 50	36,574 82	100,615 00	9,271 44	10,042 57	119,929 01
Eaton	17,992 40	43,059 00	5,129 92	373 72	184 76	13,689 95	80,429 75	3,131 35	15,513 02	99,074 12
Emmet	4,666 05	20,586 24	6,054 39	192 33	1,114 93	6,607 96	39,221 90	2,954 97	10,051 89	52,228 76
Genesee	23,871 64	53,245 15	5,355 53	1,293 93	1,508 27	35,775 59	121,050 11	10,674 95	14,645 15	145,770 21
Gladwin	3,424 00	6,935 26	1,398 92	42 10	115 83	2,255 33	14,171 44	977 41	6,110 78	21,259 63
Gogebic	5,300 00	35,445 88	37,226 38	396 58	2,785 49	26,655 78	107,810 11	7,707 92	20,993 92	136,511 95
Grand Traverse	6,632 50	32,028 19	10,930 63	97 12	1,664 43	13,059 12	64,411 99	1,035 04	26,522 75	91,969 78
Gratiot	18,285 00	28,054 55	6,519 42	701 86	1,752 17	9,878 05	65,191 05	6,984 73	21,176 52	93,352 30

TABLE VI.—CONCLUDED.

Counties.	Ordinary expenditures for maintaining the schools.							Paid on indebtedness (principal).	Amount on hand Sept. 3, 1900.	Total expenditures, including amount on hand and paid on indebtedness.
	Paid male teachers.	Paid female teachers.	Paid for building, repairs and site.	Paid for books and care of library.	Paid interest on loans.	Paid for all other purposes.	Total net expenses.			
Hillsdale	$17,796 40	$35,608 18	$5,145 29	$674 38	$245 59	$15,466 36	$74,938 20	$4,350 93	$11,195 97	$90,485 10
Houghton	32,076 75	119,825 93	108,281 09	2,285 01	4,076 71	77,719 40	344,264 89	6,797 29	92,785 08	443,847 26
Huron	21,920 88	23,609 82	7,100 61	158 65	1,903 47	9,561 03	64,254 46	4,493 63	16,373 04	85,121 13
Ingham	17,276 31	62,211 37	15,225 07	930 60	1,766 99	23,959 00	121,369 43	9,471 40	33,623 77	164,464 60
Ionia	16,981 00	42,604 64	7,319 00	711 21	55 46	18,573 31	86,244 62	1,205 73	24,303 83	111,754 18
Iosco	3,714 10	12,534 66	1,391 65	5 00	20 19	3,883 49	21,549 09	172 17	6,646 19	28,367 45
Iron	3,937 50	15,721 39	7,024 64	336 08	1,089 64	10,053 99	38,163 24	3,894 97	4,393 57	46,451 78
Isabella	8,432 20	24,571 33	2,733 11	82 98	1,259 24	10,663 46	47,742 32	3,685 85	9,715 34	61,143 51
Jackson	23,494 98	67,806 05	5,284 97	850 31	2,652 09	21,165 20	121,255 60	10,076 71	14,234 29	145,566 60
Kalamazoo	16,727 03	70,531 41	8,128 70	3,693 52	1,022 32	53,590 08	153,693 06	7,790 72	24,274 89	185,758 67
Kalkaska	5,176 75	8,257 52	5,698 05	51 23	161 92	3,346 76	22,692 23	3,477 95	5,948 30	32,118 48
Kent	43,030 99	233,807 66	19,054 73	9,289 38	13,379 46	72,051 11	390,613 33	28,424 52	111,485 95	530,523 80
Keweenaw	2,490 00	2,170 00	2,648 50	.....	18 10	1,518 00	8,844 60	1,800 00	6,392 65	17,037 25
Lake	2,214 32	6,967 30	1,027 20	22 49	64 57	2,123 38	12,419 26	205 48	6,097 74	18,722 48
Lapeer	15,321 95	31,634 69	4,595 91	407 42	753 72	14,192 24	66,905 93	4,605 69	12,259 57	83,771 19
Leelanau	4,900 00	10,402 30	5,271 81	.....	241 19	2,642 25	23,457 55	2,784 67	6,215 72	32,457 94
Lenawee	24,081 11	61,555 30	13,387 88	3,046 60	316 51	17,884 63	120,272 03	3,391 08	23,295 87	146,958 98
Livingston	12,977 00	24,286 63	4,732 94	264 48	35 79	8,035 78	50,332 62	943 47	7,887 46	59,163 55
Luce	1,950 00	5,758 00	528 00	101 00	10 50	2,889 68	11,237 18	458 50	7,859 33	19,555 01
Mackinac	2,843 90	11,006 12	2,117 52	86 39	1,097 68	6,099 83	23,251 44	1,633 00	5,402 62	30,287 06
Macomb	19,707 66	31,733 75	9,276 68	1,967 88	584 26	9,123 98	72,394 21	6,643 12	17,667 68	96,705 01
Manistee	13,587 30	43,675 44	14,638 08	767 84	1,941 91	16,995 35	91,605 92	4,404 85	10,248 07	106,258 84
Marquette	19,248 75	80,027 90	36,205 22	745 91	4,643 21	55,875 68	196,746 67	44,670 00	49,238 03	290,654 70
Mason	7,655 74	26,800 62	4,058 37	359 64	962 05	7,089 25	46,925 67	3,396 15	14,394 19	64,716 01
Mecosta	7,078 30	26,439 70	5,941 56	166 81	394 89	8,575 58	48,596 84	1,426 60	22,326 00	72,349 44
Menominee	10,917 50	45,336 52	8,101 73	453 02	4,356 29	25,230 35	94,395 41	6,052 00	7,411 52	107,858 93
Midland	4,737 50	17,002 38	1,923 32	10 59	582 02	6,651 96	30,907 77	3,976 77	13,262 01	48,146 55
Missaukee	6,585 13	9,798 07	4,396 64	233 01	502 58	4,869 53	26,384 96	4,894 77	7,395 23	38,674 96
Monroe	16,057 40	28,842 05	4,540 52	895 71	533 05	12,312 84	63,181 57	1,802 28	10,436 06	75,419 91
Montcalm	15,472 93	37,925 17	6,510 36	251 37	774 92	11,099 20	72,033 95	2,051 96	19,340 04	93,425 95
Montmorency	2,253 00	4,297 25	547 06	26 66	108 00	3,252 40	10,484 37	717 62	2,703 66	13,905 65
Muskegon	13,561 02	58,497 68	20,784 45	11 21	8,849 31	38,759 37	140,483 04	8,399 62	14,249 33	163,131 99
Newaygo	7,491 37	22,435 78	3,339 74	33 83	350 89	6,636 23	40,287 84	1,891 10	11,031 19	53,210 13
Oakland	24,389 67	55,151 22	7,814 71	662 80	946 53	18,089 57	107,054 50	6,962 16	17,541 88	131,558 54
Oceana	9,425 67	18,582 28	2,699 40	41 12	402 48	5,472 50	36,623 45	2,659 13	11,904 52	51,187 10
Ogemaw	3,708 00	7,874 15	897 21	14 25	646 15	2,357 61	15,497 37	1,269 40	6,476 54	23,243 31

Ontonagon	1,790 00	13,667 50	6,141 69	.....	786 96	11,990 68	34,376 83	3,365 00	5,094 40	42,836 23
Osceola	10,344 85	24,215 97	2,523 02	160 11	965 74	8,164 95	46,374 64	4,642 01	11,658 34	62,674 99
Oscoda	571 00	2,203 00	90 58	.....	8 33	480 04	3,352 95	410 34	699 34	4,462 63
Otsego	4,683 75	8,191 46	2,053 60	5 00	563 84	2,651 42	18,149 16	2,828 11	5,787 69	26,764 96
Ottawa	20,666 00	45,923 15	8,250 48	373 21	1,758 76	24,753 79	101,725 39	3,770 10	18,050 10	123,545 59
Presque Isle	4,719 23	3,297 70	9,341 54	68 40	141 41	2,821 91	20,390 19	2,080 35	5,590 91	28,061 45
Roscommon	780 00	1,354 56	47 90	.....	181 38	401 73	2,765 57	94 63	1,111 91	3,972 11
Saginaw	36,110 65	119,689 78	14,895 90	1,426 76	2,230 84	43,784 05	218,137 98	12,917 35	30,729 17	261,784 50
St. Clair	18,140 75	66,049 40	12,256 02	3,305 54	1,253 11	26,501 99	127,506 81	3,858 94	19,444 10	150,809 85
St. Joseph	18,338 08	33,761 00	5,358 28	184 24	287 35	15,831 49	73,760 44	2,843 50	8,342 88	84,946 82
Sanilac	24,407 38	24,227 45	11,105 98	74 61	1,906 65	10,684 61	72,406 68	3,192 40	16,903 64	92,502 72
Schoolcraft	4,932 00	12,626 25	10,005 62	449 38	872 43	14,069 46	42,955 14	337 90	6,181 39	49,474 43
Shiawassee	19,858 30	40,748 67	15,251 82	463 46	2,091 63	20,071 15	98,485 03	6,452 21	13,463 06	118,400 30
Tuscola	14,538 50	35,132 50	5,724 60	182 50	1,093 23	12,980 55	69,651 88	2,880 50	17,724 39	90,256 77
Van Buren	20,447 55	37,047 72	9,330 32	976 35	600 71	12,319 46	80,722 11	4,936 16	15,500 81	101,159 08
Washtenaw	23,580 85	74,131 37	20,610 83	2,319 07	2,064 34	30,062 22	152,788 68	7,456 99	23,759 31	184,004 98
Wayne	104,244 29	607,683 62	331,701 61	43,490 10	9,612 29	191,121 92	1,287,853 83	19,963 02	90,498 37	1,398,315 22
Wexford	7,376 58	28,777 65	10,436 59	55 51	369 67	12,118 79	59,134 79	7,887 86	13,610 23	80,632 88

TABLE VII.

Miscellaneous statistics as reported by school inspectors for the year ending September 3, 1900.

Counties.	Bonded indebtedness of the districts.	Total indebtedness of the districts.	Amount due the districts.	Amount paid and due inspectors and members of school boards for services.	Amount paid and due township chairmen and other officers for services.
Totals	$2,038,934 28	$2,245,005 94	$353,638 53	$15,420 40	$32,069 61
Alcona	$50 00	$352 74	$959 77	$77 00	$24 50
Alger	7,420 20	9,098 17	192 43	347 00	640 00
Allegan	30,791 70	31,217 30	3,003 21	234 25	102 65
Alpena	2,000 00	4,278 46	5,668 00	213 95	364 67
Antrim	12,922 65	14,302 78	3,106 24	92 50	13 50
Arenac	14,328 00	15,658 75	1,177 61	113 35	54 55
Baraga	.....	.....	.....	213 00	387 00
Barry	1,780 66	6,340 63	1,466 83	102 35	16 50
Bay	89,280 29	90,882 43	7,453 98	195 25	120 50
Benzie	21,226 89	24,352 05	3,692 12	87 90	10 50
Berrien	38,900 00	46,712 27	2,819 53	147 75	253 50
Branch	6,781 80	6,886 56	1,103 13	123 25	214 50
Calhoun	5,901 33	6,433 12	1,007 67	129 00	337 00
Cass	8,200 00	8,435 43	1,129 69	133 25	59 00
Charlevoix	29,100 00	31,540 95	2,569 01	188 75	34 50
Cheboygan	39,747 40	44,066 87	3,970 61	185 25	180 25
Chippewa	75,578 00	87,704 80	12,303 74	290 00	558 75
Clare	9,550 00	10,589 79	1,701 22	96 50	94 50
Clinton	1,100 00	2,329 22	1,127 52	126 20	.....
Crawford	.....	9 50	1,257 95	60 25	15 00
Delta	55,000 00	60,766 48	936 17	284 05	664 70
Dickinson	66,334 30	78,248 74	110 00	356 00	1,125 00
Eaton	3,550 00	7,071 21	1,300 92	129 45	347 75
Emmet	18,450 66	18,884 47	5,199 28	127 25	40 25
Genesee	20,249 50	20,743 08	1,083 23	252 73	331 23
Gladwin	2,983 00	4,228 29	2,387 13	87 00	27 50
Gogebic	60,000 00	60,292 08	2,032 01	514 00	1,089 00
Grand Traverse	27,925 00	36,183 00	2,165 69	120 50	39 91
Gratiot	33,100 00	33,573 20	3,176 31	137 50	47 75
Hillsdale	680 53	3,467 50	2,816 12	102 75	117 45
Houghton	91,650 22	92,527 83	1,922 46	350 00	244 00
Huron	43,756 00	44,987 98	1,601 14	204 00	73 75
Ingham	29,223 78	31,242 79	1,320 30	121 50	807 50
Ionia	8,000 00	8,177 21	2,076 04	117 00	42 00
Iosco	250 00	968 09	1,521 39	134 90	213 25
Iron	16,000 00	24,472 83	1,659 00	619 56	787 50
Isabella	17,196 00	18,250 67	3,950 88	96 75	115 75
Jackson	38,706 56	39,773 11	1,335 61	119 61	805 50
Kalamazoo	13,789 61	14,120 57	321 54	98 50	418 25
Kalkaska	1,784 27	3,582 35	890 86	83 25	18 75
Kent	279,130 42	280,505 84	36,683 08	197 35	1,035 25
Keweenaw	.....	.....	120 12	55 50	115 00
Lake	400 00	832 50	2,349 88	91 75	15 50
Lapeer	9,275 00	9,628 74	1,417 81	142 25	72 00
Leelanau	7,253 00	7,396 05	1,651 19	97 00	24 00
Lenawee	2,153 33	4,678 41	2,177 53	217 00	227 75
Livingston	810 00	1,123 62	805 69	150 75	22 25
Luce	....	347 00	344 87	186 00	335 50
Mackinac	15,625 00	18,169 13	6,950 18	272 00	666 00
Macomb	7,035 00	7,918 99	1,103 18	237 75	98 00

TABLE VII.—CONCLUDED.

Counties.	Bonded indebtedness of the districts.	Total indebtedness of the districts.	Amount due the districts.	Amount paid and due inspectors and members of school boards for services.	Amount paid and due township chairmen and other officers for services.
Manistee	$32,844 00	$36,366 38	$11,016 77	$128 00	$33 50
Marquette	90,000 00	108,428 40	26,399 10	1,073 59	2,423 50
Mason	18,675 00	18,772 00	4,697 40	120 75	122 00
Mecosta	3,875 00	4,556 47	4,076 95	152 80	189 50
Menominee	67,472 00	75,184 79	2,860 42	268 20	835 00
Midland	4,300 00	5,345 85	12,917 67	108 25	102 25
Missaukee	2,650 00	3,581 64	4,062 20	128 00	34 75
Monroe	13,905 00	14,550 00	198 71	118 00	58 00
Montcalm	14,165 00	14,798 90	3,826 07	140 80	71 75
Montmorency		332 78	215 00	283 60	278 72
Muskegon	41,906 92	52,671 77	51,837 52	197 00	64 00
Newaygo	4,602 13	5,042 43	10,079 99	183 75	48 00
Oakland	12,000 00	13,155 56	804 10	218 00	78 50
Oceana	4,500 00	5,378 00	3,765 42	252 80	66 90
Ogemaw	12,495 00	13,291 50	3,948 82	154 75	10 50
Ontonagon	6,729 28	14,229 28	18,314 09	386 50	871 00
Osceola	12,900 00	13,356 41	5,013 91	172 75	41 75
Oscoda		481 68	328 77	76 62	56 50
Otsego	7,250 00	7,567 50	2,042 10	77 25	14 25
Ottawa	25,794 19	27,150 92	1,449 72	127 75	204 50
Presque Isle	10,609 00	13,200 00	2,923 84	92 75	26 00
Roscommon	3,000 00	3,371 06	965 82	49 50	3 50
Saginaw	33,828 00	35,296 74	4,376 80	250 35	2,664 08
St. Clair	17,570 00	18,738 68	1,317 63	166 50	161 50
St. Joseph	815 00	6,321 39	899 29	124 25	157 50
Sanilac	34,623 00	35,802 68	2,306 29	215 81	43 75
Schoolcraft	17,050 00	18,040 97	731 68	232 71	397 00
Shiawassee	53,200 00	55,710 48	2,278 00	203 25	305 50
Tuscola	16,891 66	18,024 50	2,749 84	189 25	33 50
Van Buren	1,470 00	7,932 23	3,700 82	132 00	29 00
Washtenaw	53,530 00	62,173 65	688 65	141 50	604 00
Wayne	145,862 00	152,647 73	13,225 49	251 50	8,527 50
Wexford	9,450 00	10,147 96	2,510 98	141 47	22 50

TABLE VIII.

Cost per capita of public schools of the State for the school year ending September 3, 1900.

Counties.	Number of pupils included in school census in—		Number of pupils enrolled in—		Cost per capita for instruction based on school census in—			Cost per capita for instruction based on enrollment in—			Total expenses per capita during year based on enrollment in—		
	Graded school districts.	Ungraded school districts.	Graded school districts.	Ungraded school districts.	Graded school districts.	Ungraded school districts.	All school districts.	Graded school districts.	Ungraded school districts.	All school districts.	Graded school districts.	Ungraded school districts.	All school districts.
Totals	427,966	293,732	301,275	203,710	$7 29	$4 70	$6 24	$10 36	$6 78	$8 91	$17 89	$9 36	$14 45
Alcona	191	1,789	175	1,278	$6 73	$4 54	$4 75	$7 35	$6 36	$6 48	$8 51	$8 11	$8 15
Alger	1,378	100	1,095	54	8 16	14 65	9 53	11 53	27 13	12 26	17 92	47 14	19 29
Allegan	3,907	7,922	3,294	5,718	7 48	4 34	5 38	8 88	6 01	7 06	17 32	8 06	11 76
Alpena	5,264	1,665	2,727	949	3 92	3 98	3 93	7 56	6 95	7 41	13 68	9 99	12 73
Antrim	2,179	2,696	1,752	2,016	6 58	5 83	6 17	8 19	7 85	7 98	13 48	12 70	13 07
Arenac	1,728	1,747	1,309	1,249	3 90	3 67	3 77	5 15	5 13	5 14	12 78	6 99	10 34
Baraga	1,480	.....	932	.....	8 78	.....	8 78	13 96	.....	13 96	22 11	.....	22 11
Barry	1,664	4,582	1,482	3,605	9 43	6 06	6 96	10 59	7 70	8 55	11 65	9 74	12 26
Bay	14,923	6,752	9,006	3,630	5 58	2 63	4 66	9 25	4 89	8 00	13 98	8 41	12 38
Benzie	1,551	1,305	1,398	954	5 41	6 43	6 78	7 13	8 80	8 23	11 00	11 39	11 11
Berrien	7,704	6,267	6,471	4,343	7 77	4 77	6 42	9 25	6 88	8 31	15 57	9 18	13 00
Branch	2,733	4,192	2,004	3,134	8 68	5 59	6 81	11 85	7 48	9 18	16 71	9 49	12 31
Calhoun	7,407	4,921	6,084	3,484	8 81	6 24	7 78	10 72	8 82	10 03	17 07	11 68	15 11
Cass	2,091	3,531	1,796	2,707	9 57	6 91	7 90	11 14	9 02	9 86	16 29	11 15	13 20
Charlevoix	1,916	2,620	1,566	1,810	6 30	4 48	5 25	7 71	6 47	7 05	11 83	9 07	10 35
Cheboygan	2,998	2,359	2,040	1,478	4 79	5 32	5 04	7 12	8 58	7 68	14 29	13 21	13 84
Chippewa	3,513	2,469	2,452	1,750	6 82	5 29	6 19	9 77	7 46	8 81	29 63	10 91	21 93
Clare	1,042	1,833	835	1,305	5 57	4 42	4 87	6 96	9 29	6 55	9 62	10 16	9 99
Clinton	2,158	4,966	1,857	3,198	8 95	4 91	6 13	10 40	7 63	8 65	14 94	10 22	11 95
Crawford	424	302	326	212	8 72	6 46	7 78	11 35	9 20	10 50	15 60	11 78	14 11
Delta	5,609	1,387	3,693	803	5 90	4 21	5 56	8 96	7 28	8 66	20 94	10 69	21 35
Dickinson	5,200	519	4,003	347	7 05	8 95	7 22	9 16	13 40	9 50	22 87	26 06	23 13
Eaton	3,175	4,793	3,025	3,590	10 50	5 78	7 66	11 02	7 71	9 23	14 69	10 02	10 04
Emmet	1,994	2,242	1,434	1,374	6 52	5 46	5 96	9 06	8 91	8 92	13 92	14 00	13 96
Genesee	5,165	5,792	4,136	4,403	9 18	5 12	7 03	11 47	6 73	9 03	19 95	8 74	14 17
Gladwin	720	1,509	520	1,022	4 30	4 83	4 66	5 94	7 14	6 73	7 58	10 00	9 19
Gogebic	4,455	481	3,351	323	8 31	7 67	8 25	11 05	11 42	11 09	29 55	27 44	29 34
G'd Traverse	3,336	2,711	2,453	1,980	7 39	5 16	6 39	10 05	7 06	8 72	10 51	9 40	14 53
Gratiot	2,947	6,102	2,654	4,549	7 22	4 10	5 12	8 02	5 50	6 43	11 04	7 93	9 05
Hillsdale	2,775	4,750	2,507	3,584	9 07	5 93	7 09	10 05	7 87	8 76	14 76	10 23	12 30
Houghton	19,774	742	12,989	434	7 38	7 97	7 44	11 23	13 63	11 31	25 53	28 96	25 64
Huron	4,208	8,684	2,940	5,438	4 82	2 90	3 54	8 66	3 73	5 43	9 46	6 69	7 66
Ingham	5,795	4,281	4,499	3,156	9 27	5 99	7 88	11 91	8 12	10 38	19 01	11 34	15 85
Ionia	4,353	4,980	3,764	3,505	7 94	5 02	6 37	9 20	7 13	8 19	14 06	8 63	11 72
Iosco	2,677	973	1,903	584	4 61	4 01	4 45	6 49	6 68	6 54	8 28	9 89	8 66
Iron	2,215	63	1,780	45	8 65	7 61	8 62	10 77	10 66	10 22	20 87	22 22	20 91
Isabella	1,670	5,682	1,285	3,884	6 71	3 84	4 49	8 70	5 62	6 39	15 24	7 28	9 26
Jackson	6,934	4,851	5,272	3,446	8 92	6 05	7 74	11 76	8 52	10 47	15 88	10 87	13 90
Kalamazoo	7,415	3,534	5,059	2,604	8 56	6 71	7 09	12 51	9 10	11 38	24 28	11 84	16 03
Kalkaska	491	1,501	428	1,006	6 99	6 66	6 74	8 02	9 94	9 36	16 92	15 41	15 82
Kent	29,848	8,751	18,793	6,063	7 83	4 69	7 17	12 54	6 78	11 94	17 89	8 96	15 71
Keweenaw	519	330	378	216	5 03	6 19	5 41	6 91	9 46	7 84	16 02	12 90	14 89
Lake	604	919	413	676	4 81	6 37	6 02	7 07	9 26	8 43	9 31	12 68	11 31
Lapeer	2,831	5,665	2,443	4,161	8 15	4 21	5 41	9 45	5 73	7 11	14 37	7 87	10 13
Leelanau	927	2,756	670	1,815	4 92	3 89	4 15	6 80	5 91	6 15	12 74	7 21	9 43
Lenawee	5,937	6,834	4,526	5,042	8 18	5 42	6 70	10 70	7 35	8 95	15 29	10 17	12 56
Livingston	1,426	3,829	1,188	2,979	10 08	5 97	6 18	12 10	7 68	8 94	17 08	10 08	12 08
Luce	603	100	557	65	10 88	11 43	11 24	11 78	17 58	12 55	17 96	18 94	18 38
Mackinac	965	1,479	576	999	5 47	5 10	5 66	9 19	8 56	8 78	17 37	13 25	14 12
Macomb	4,757	5,975	3,044	3,440	6 14	3 72	4 79	9 59	6 46	7 77	13 88	8 75	11 16
Manistee	6,502	2,477	4,888	1,688	7 06	4 57	6 37	9 39	6 70	8 70	15 46	9 50	13 93
Marquette	12,547	270	8,307	180	7 74	7 74	7 73	11 81	11 61	11 70	23 23	20 98	23 18
Mason	3,278	3,192	2,375	2,163	6 53	4 03	5 32	9 09	5 94	7 59	12 23	8 26	10 34
Mecosta	2,366	4,682	1,795	3,550	6 12	4 06	4 75	8 09	5 36	6 27	11 98	7 62	9 09

TABLE VIII—Concluded.

Counties.	Number of pupils included in school census in—		Number of pupils enrolled in—		Cost per capita for instruction based on school census in—			Cost per capita for instruction based on enrollment in—			Total expenses per capita during year based on enrollment in—		
	Graded school districts.	Ungraded school districts.	Graded school districts.	Ungraded school districts.	Graded school districts.	Ungraded school districts.	All school districts.	Graded school districts.	Ungraded school districts.	All school districts.	Graded school districts.	Ungraded school districts.	All school districts.
Menominee	7,315	1,871	5,121	1,234	$6 60	$4 25	$6 12	$9 43	$6 44	$8 85	$15 40	$11 17	$14 85
Midland	1,550	3,367	1,386	2,123	5 75	3 81	4 42	6 43	6 04	6 19	9 32	8 47	8 81
Missaukee	995	1,926	733	1,392	4 88	5 98	5 61	6 63	8 28	7 71	9 58	13 91	12 41
Monroe	3,124	7,314	1,895	5,089	5 42	3 82	4 30	8 93	5 49	6 43	13 83	7 26	9 05
Montcalm	3,878	6,518	3,307	4,618	7 21	3 90	5 13	8 45	5 51	6 74	11 10	7 64	9 09
Montmorency	724	206	539	110	6 81	7 86	7 04	9 14	14 73	10 09	15 89	17 44	16 15
Muskegon	9,148	3,950	6,609	2,679	6 23	3 81	5 50	8 63	5 61	7 76	18 13	7 71	15 12
Newaygo	1,407	4,615	1,168	3,448	6 12	4 62	4 97	7 38	6 18	6 48	10 20	8 23	8 72
Oakland	5,282	5,773	4,259	4,139	8 13	6 34	7 19	10 08	8 84	9 47	14 69	10 74	12 75
Oceana	1,075	4,097	1,055	3,066	8 59	4 58	5 41	8 75	6 12	6 80	11 54	7 97	8 88
Ogemaw	806	1,723	637	1,132	5 04	4 36	4 58	6 38	6 64	6 55	9 40	8 40	8 76
Ontonagon	1,324	258	1,081	215	9 22	12 59	9 77	11 29	15 10	11 93	25 11	33 64	26 53
Osceola	1,935	4,051	1,745	2,884	7 94	4 73	5 77	8 80	6 65	7 46	11 62	9 05	10 02
Oscoda	145	222	116	155	6 93	7 97	7 55	8 66	11 41	10 23	80 81	13 54	12 37
Otsego	727	1,030	530	600	6 96	7 59	7 33	9 54	13 02	11 39	12 55	19 16	16 06
Ottawa	7,878	5,700	6,144	3,865	5 68	3 83	4 91	7 28	5 64	6 65	11 70	7 71	10 16
Presque Isle	911	2,006	611	875	3 17	2 55	2 75	4 72	5 86	5 39	20 70	8 84	13 72
Roscommon	252	193	142	133	4 12	5 67	4 80	7 32	8 23	7 76	10 08	10 03	10 05
Saginaw	17,785	9,152	11,514	5,905	7 05	3 32	5 78	10 88	5 15	8 94	15 38	6 94	12 52
St. Clair	9,558	7,967	6,286	5,483	5 42	4 06	4 80	8 23	5 91	7 15	12 59	8 81	10 83
St. Joseph	2,949	3,264	2,368	2,443	10 42	6 54	8 39	12 98	8 74	10 83	19 01	11 77	15 33
Sanilac	3,683	8,494	2,961	6,500	5 13	3 50	3 99	6 39	4 57	5 14	10 50	6 35	7 65
Schoolcraft	1,451	647	1,156	520	8 44	8 21	8 37	10 59	10 22	10 47	30 65	14 47	25 63
Shiawassee	4,295	4,603	3,645	3,320	8 78	4 97	6 81	10 34	6 90	8 70	18 90	8 91	14 13
Tuscola	3,281	8,114	2,550	5,598	6 38	3 54	4 36	8 21	5 13	6 10	11 79	7 07	8 55
Van Buren	3,901	5,532	3,251	4,022	7 53	5 08	6 09	9 03	6 99	7 91	12 90	9 64	11 10
Washtenaw	6,696	5,527	4,825	3,592	10 18	5 35	7 99	14 12	8 23	11 61	23 42	11 07	18 15
Wayne	93,049	8,121	57,105	4,693	7 30	4 03	7 03	11 89	6 98	11 52	21 76	9 60	20 84
Wexford	2,582	2,637	2,287	1,889	7 94	5 93	6 93	8 97	8 28	8 66	15 47	12 58	14 16

TABLE IX.

Statistics of township and district libraries as reported by school inspectors for the year ending September 3, 1900.

Counties.	No. of townships using library money for general school purposes.	No. of townships forfeiting library money.	No. of townships maintaining libraries.	Number of volumes added to township libraries during the year.	Whole number of volumes in township libraries.	Amount of taxes voted for township libraries.	Amount of fines, etc., received from county treasurer for township libraries.	Amount paid for books and care of township libraries.	Amount of township library money on hand Sept. 3, 1900.	Number of districts maintaining libraries.	No. of volumes added to district libraries during the year.	Whole number of volumes in district libraries.	Amount paid for the support of district libraries.	Amount of fines, etc., received from county treasurer for district libraries.
Totals	358	450	426	7,674	157,177	$2,080 82	$8,975 92	$9,913 55	$15,864 69	3,658	59,560	809,560	$94,461 17	$116,733 64
Alcona	2	5	4	.....	899	$50 00	.....	$24 50	$10 75	6	49	454	.....	$20 00
Alger	1	6	.....	.....	.....	.....	$12 10	.....	.....	2	.....	143	$287 07	.....
Allegan	9	7	8	20	3,621	.....	103 23	105 06	259 35	122	855	8,910	569 06	1,746 13
Alpena	2	1	4	69	575	.....	.....	30 97	.....	7	140	3,862	675 35	162 34
Antrim	3	.....	13	317	3,449	100 00	84 06	345 77	350 78	20	181	1,642	192 20	244 92
Arenac	5	6	.....	.....	.....	.....	.....	.....	.....	12	243	938	90 99	147 78
Baraga	.....	5	.....	.....	.....	.....	.....	.....	112 82	4	130	1,327	127 00	102 20
Barry	8	5	3	85	1,062	.....	49 64	78 46	22 61	94	714	5,784	466 71	1,381 55
Bay	3	6	7	284	2,582	.....	261 46	290 86	420 71	30	2,604	51,657	183 74	495 86
Benzie	1	2	9	281	2,272	.....	47 65	168 52	90 50	26	390	2,832	158 11	193 51
Berrien	3	11	6	161	5,382	200 00	196 79	272 09	493 23	138	2,130	19,880	881 30	1,152 27
Branch	9	3	4	109	3,475	300 00	193 34	255 98	437 83	51	258	3,252	202 90	1,204 19
Calhoun	12	6	3	.....	1,209	7 55	103 12	43 00	159 04	90	1,911	24,626	1,666 38	2,316 43
Cass	8	3	4	130	1,808	.....	224 50	136 38	221 70	59	602	4,552	665 32	1,655 07
Charlevoix	6	3	6	315	2,149	150 00	46 23	324 19	175 71	22	120	1,407	15 00	125 59
Cheboygan	5	5	5	63	759	25 00	50 00	47 22	80 62	15	80	4,719	262 01	62 63
Chippewa	5	5	4	27	551	.....	39 47	18 77	17 70	10	169	2,346	219 49	145 76
Clare	4	5	5	99	1,163	30 00	.....	79 49	128 65	7	177	952	189 32	90 46
Clinton	9	2	7	255	1,743	40 00	241 82	104 96	132 85	78	470	4,144	230 98	1,026 93
Crawford	2	2	3	32	601	.....	124 39	143 02	32 04	8	28	500	17 00	12 50
Delta	4	4	4	50	200	.....	1 70	28 00	113 16	10	356	3,242	438 95	576 20
Dickinson	1	4	1	.....	205	25 00	.....	75 00	73 85	6	624	6,204	652 08	668 12
Eaton	4	5	7	142	6,297	.....	334 16	293 97	506 84	86	831	7,584	373 72	1,218 81
Emmet	.....	3	11	189	2,183	50 00	399 16	101 09	413 97	31	292	2,369	192 33	367 82
Genesee	4	13	1	122	478	.....	49 12	60 61	82	106	1,144	16,858	1,293 93	2,116 91
Gladwin	1	9	2	.....	476	.....	58 30	15 00	66 05	13	167	659	42 10	110 77
Gogebic	2	3	.....	.....	.....	.....	.....	.....	31 62	4	1,758	6,851	396 58	237 00
Grand Traverse	.....	3	10	117	4,474	.....	146 32	182 79	256 66	33	301	3,429	97 12	408 85

Gratiot	4	13	.....	.....	.....	.....	28 63	.....	.....	118	1,121	10,762	701 86	1,335 29
Hillsdale	6	12	.....	25	1,100	.....	.....	24 00	.....	138	1,304	6,842	674 38	1,427 67
Houghton	4	4	4	82	4,502	.....	331 57	329 30	656 23	17	742	12,301	2,285 01	1,189 56
Huron	7	9	10	105	2,799	.....	140 10	127 00	352 57	69	954	4,183	158 65	618 68
Ingham	12	4	.....	.....	.....	.....	22 05	.....	.....	77	954	13,997	930 60	1,842 36
Ionia	13	3	1	150	401	100 00	26 20	50 00	.....	65	963	6,145	711 21	1,356 98
Iosco	2	5	4	.....	261	.....	.....	29 00	49 04	13	114	2,556	5 00	7 00
Iron	4	4	.....	.....	.....	.....	.....	.....	59 21	4	278	1,928	336 06	251 97
Isabella	2	8	6	4	1,179	.....	22 56	35 00	101 73	29	100	1,514	82 98	297 75
Jackson	6	13	.....	.....	.....	.....	36 84	.....	.....	119	1,200	8,315	850 31	2,702 89
Kalamazoo	11	2	3	99	1,588	60 00	55 12	73 15	43 18	85	2,014	34,795	3,693 52	1,382 82
Kalkaska	3	6	4	4	636	.....	66 40	14 81	79 10	11	51	798	51 23	53 66
Kent	10	6	8	90	4,270	100 00	245 68	214 32	148 16	128	3,534	70,665	9,289 38	3,876 04
Keweenaw	.....	5	.....	.....	250	.....	13 12	.....	231 80	2	.....	1,350	.....	51 46
Lake	1	1	9	32	1,980	.....	136 69	138 05	329 25	11	95	1,273	22 49	63 43
Lapeer	8	8	3	100	1,215	.....	47 06	92 11	20 85	88	871	7,141	407 42	977 99
Leelanau	1	.....	11	46	2,852	.....	42 27	151 96	134 35	17	53	675	.....	228 51
Lenawee	4	12	6	40	3,578	.....	50 22	98 85	52 04	117	1,379	27,679	3,046 60	2,061 86
Livingston	10	4	3	.....	1,357	.....	56 59	41 00	144 83	20	185	2,462	264 48	863 46
Luce	1	3	.....	.....	.....	.....	.....	.....	215 15	2	.....	1,151	101 00	253 50
Mackinac	1	10	.....	.....	.....	.....	.....	.....	23 10	8	525	2,043	86 39	84 30
Macomb	4	5	5	159	1,020	.....	267 36	171 21	607 27	49	1,500	11,878	1,967 88	1,850 28
Manistee	2	3	7	16	2,238	50 00	90 03	116 60	132 43	28	487	5,613	767 84	727 86
Marquette	4	9	2	.....	896	100 00	42 57	.....	963 52	16	287	7,955	745 91	648 35
Mason	1	3	9	83	3,315	.....	1,013 62	156 12	1,170 82	23	312	4,648	359 64	162 77
Mecosta	7	3	6	89	1,797	.....	145 04	117 43	100 68	50	511	3,269	166 81	649 32
Menominee	5	2	3	.....	765	.....	.....	50 00	82 30	10	366	3,304	453 02	8 64
Midland	2	8	6	12	299	.....	46 41	27 59	12 45	24	49	1,958	10 59	279 03
Missankee	3	2	9	138	1,565	65 00	112 53	169 70	72 57	15	26	898	233 01	117 09
Monroe	4	5	8	128	1,871	.....	116 30	137 86	142 44	100	718	9,174	895 71	2,349 90
Montcalm	8	4	9	201	2,552	.....	221 41	156 85	272 99	48	603	5,481	251 37	818 45
Montmorency	.....	4	2	.....	410	.....	20 97	13 00	92 00	2	25	255	26 66	90 82
Muskegon	2	2	14	210	5,499	75 00	191 50	345 87	517 50	22	2,626	33,238	11 21	318 93
Newaygo	5	5	13	171	3,296	.....	219 21	238 01	296 61	48	862	2,579	33 83	196 74
Oakland	13	9	3	154	1,920	.....	198 90	170 60	156 48	81	834	9,032	662 80	2,813 18
Oceana	.....	.....	16	343	6,672	50 00	65 89	590 80	173 95	42	251	2,617	41 12	210 76
Ogemaw	3	5	5	16	1,817	100 00	52 63	17 35	69,52	3	23	316	14 25	86 80
Ontonagon	2	6	.....	.....	.....	.....	.....	.....	.....	3	.....	672	.....	.....
Osceola	4	2	11	904	4,609	.....	305 49	725 22	699 03	23	435	2,203	160 11	561 96
Oscoda	1	1	1	3	440	.....	.....	4 75	17 53	1	.....	150	.....	.....
Otsego	4	1	7	37	2,810	37 00	350 25	183 70	481 73	9	65	468	5 00	228 84
Ottawa	2	2	11	126	5,541	.....	391 66	211 06	499 65	59	337	11,077	373 21	1,550 28
Presque Isle	1	9	1	.....	20	.....	.....	1 00	.....	10	115	833	68 40	9 35
Roscommon	2	1	4	161	758	50 00	29 62	60 05	82 00	59	.....	1	.....	.....
Saginaw	6	11	10	65	3,942	20 38	34 94	197 45	270 57	.....	467	24,551	1,426 76	855 47

TABLE IX.—CONCLUDED.

Counties.	No. of townships using library money for general school purposes.	No. of townships forfeiting library money.	No. of townships maintaining libraries.	Number of volumes added to township libraries during the year.	Whole number of volumes in township libraries.	Amount of taxes voted for township libraries.	Amount of fines, etc., received from county treasurer for township libraries.	Amount paid for books and care of township libraries.	Amount of township library money on hand Sept. 3, 1900.	Number of districts maintaining libraries.	No. of volumes added to district libraries during the year.	Whole number of volumes in district libraries.	Amount paid for the support of district libraries.	Amount of fines, etc., received from county treasurer for district libraries.
St. Clair	2	15	6	67	2,909	.....	$184 51	$147 31	$267 63	108	2,529	16,267	$3,305 74	$1,347 52
St. Joseph	7	7	3	.....	1,057	.....	23 67	83 00	96 26	94	422	6,729	194 24	1,041 54
Sanilac	9	9	10	231	2,691	.....	54 76	161 50	175 19	40	316	2,453	74 61	636 86
Schoolcraft	4	3	1	15	320	.....	.....	11 60	117 41	7	202	1,968	449 38	.....
Shiawassee	3	12	1	80	540	$15 00	29 20	15 00	52 06	70	1,286	4,665	463 46	1,031 10
Tuscola	5	8	10	146	3,443	.....	123 13	177 50	322 30	56	362	5,425	182 50	780 89
Van Buren	3	8	7	212	6,117	.....	398 23	375 45	264 41	104	1,436	8,474	976 35	1,526 65
Washtenaw	9	6	6	5	2,852	200 00	10 15	37 00	10 17	79	2,699	16,751	2,319 07	1,793 67
Wayne	3	12	5	11	3,966	25 00	82 25	81 84	218 72	123	6,170	192,477	43,490 10	54,996 99
Wexford	.....	4	12	225	3,759	55 89	66 03	226 98	165 23	24	78	2,513	55 51	116 82

TABLE X.

Branches of instruction as reported by school inspectors for the year ending Sept. 3, 1900.

Counties.	Number of districts in which instruction is given in—												
	Algebra.	Arithmetic.	Botany.	Civil Government.	Geography.	Geometry.	Grammar.	Orthography.	Penmanship.	Physics.	Physiology.	Reading.	U. S. History.
Totals	2,075	6,933	1,045	5,758	6,841	906	6,827	4,441	5,608	966	6,558	6,880	6,719
Alcona	7	27	4	20	26	1	25	16	17	4	25	26	25
Alger	4	7	3	7	7	1	7	7	7	3	7	7	7
Allegan	37	182	12	165	175	9	175	105	169	17	167	164	178
Alpena	1	22	1	7	19	2	19	10	15	1	17	19	17
Antrim	17	63	6	44	62	4	62	32	48	5	57	65	63
Arenac	8	37	5	29	36	6	37	21	32	6	32	37	36
Baraga	3	5	2	4	5	2	5	4	5	2	5	5	5
Barry	36	141	11	128	141	5	141	68	92	4	137	140	139
Bay	13	60	5	51	58	10	55	63	47	6	57	61	56
Benzie	14	47	13	35	46	10	45	31	29	12	42	46	45
Berrien	33	142	15	120	139	14	140	106	112	15	138	141	136
Branch	30	125	9	90	124	5	125	67	97	4	117	124	119
Calhoun	67	162	12	122	160	10	159	94	133	12	151	160	157
Cass	37	109	12	82	104	8	105	69	83	8	101	104	101
Charlevoix	15	62	14	52	63	15	60	36	54	10	60	62	61
Cheboygan	11	54	1	31	52	7	50	35	46	6	49	52	48
Chippewa	5	46	2	39	45	3	44	29	40	8	45	46	44
Clare	11	51	13	40	50	11	51	42	50	8	50	50	49
Clinton	22	129	11	115	125	6	125	88	110	6	122	126	124
Crawford	5	17	1	10	16	2	12	8	15	1	14	15	13
Delta	6	25	2	13	24	3	24	20	23	4	24	24	24
Dickinson	5	8	3	8	8	4	8	7	8	4	7	8	8
Eaton	29	146	13	127	146	11	146	68	114	10	136	143	142
Emmet	18	67	9	50	66	10	65	40	63	12	62	66	61
Genesee	78	151	42	135	158	36	157	99	142	36	147	157	157
Gladwin	12	37	3	33	36	4	36	20	27	3	35	36	35
Gogebic	4	7	3	5	7	2	7	5	6	2	7	7	7
Grand Traverse	14	66	10	51	65	3	66	53	61	4	65	67	66
Gratiot	47	130	28	120	128	27	128	105	104	34	130	129	131
Hillsdale	50	161	38	126	153	26	162	71	139	27	156	162	154
Houghton	25	31	12	23	31	10	31	25	26	10	26	31	30
Huron	38	112	15	102	110	10	111	75	98	14	110	112	109
Ingham	30	141	13	111	131	10	127	82	90	15	127	126	124
Ionia	39	137	36	122	137	30	137	81	95	27	126	134	135
Iosco	14	26	12	20	26	11	25	20	26	11	25	26	24
Iron	3	8	2	6	8	2	8	7	7	3	8	7	8
Isabella	20	101	13	85	98	11	99	68	80	11	97	98	98
Jackson	52	152	18	129	151	21	153	82	135	18	144	151	144
Kalamazoo	47	134	17	107	136	11	134	95	103	13	125	133	128
Kalkaska	12	50	4	42	50	1	50	32	40	2	49	50	49
Kent	64	200	27	178	199	13	202	115	164	18	192	194	192
Keweenaw	4	5	.....	4	5	2	5	5	5	2	5	5	5
Lake	5	29	2	25	39	3	38	23	27	4	37	39	36
Lapeer	38	133	19	114	132	16	131	84	108	18	127	129	130
Leelanau	14	56	7	45	55	9	54	39	47	7	53	56	54
Lenawee	66	196	23	171	186	18	194	128	190	21	190	198	191
Livingston	53	135	8	115	132	6	130	75	98	13	115	130	126
Luce	1	4	1	4	4	1	4	4	4	1	4	4	4
Mackinac	3	15	2	9	15	4	15	14	16	4	15	16	16
Macomb	35	106	20	89	110	18	108	85	97	18	90	109	107

TABLE X.—CONCLUDED.

Counties.	Number of districts in which instruction is given in—												
	Algebra.	Arithmetic.	Botany.	Civil Government.	Geography.	Geometry.	Grammar.	Orthography.	Penmanship.	Physics.	Physiology.	Reading.	U. S. History.
Manistee	21	57	11	48	56	14	57	43	42	13	52	56	52
Marquette	11	19	8	18	19	7	19	14	19	8	19	19	19
Mason	15	59	7	50	60	7	57	33	51	5	59	62	58
Mecosta	20	92	13	78	93	13	90	64	72	8	92	95	90
Menominee	11	32	9	23	33	8	31	24	22	7	33	33	31
Midland	23	72	15	69	67	19	71	46	57	10	70	72	70
Missaukee	18	48	8	37	49	7	47	29	36	7	46	48	45
Monroe	33	139	34	122	123	20	130	92	113	11	101	136	130
Montcalm	37	139	21	127	137	21	134	63	98	25	136	138	136
Montmorency	3	7	2	7	7	2	7	6	7	2	7	7	7
Muskegon	30	87	10	70	85	6	86	59	72	10	86	89	89
Newaygo	28	114	20	91	112	18	111	62	97	21	114	114	112
Oakland	82	199	40	145	199	35	201	106	160	43	174	200	192
Oceana	20	88	6	75	87	4	82	60	75	10	80	87	81
Ogemaw	3	35	4	21	35	7	35	17	31	4	33	35	34
Ontonagon	5	7	3	7	8	3	8	6	8	3	8	8	8
Osceola	16	94	10	71	94	10	93	58	79	15	93	94	89
Oscoda	4	11	2	7	11	1	8	6	9	1	11	11	7
Otsego	21	38	19	29	34	19	38	29	33	21	39	39	38
Ottawa	33	122	13	105	122	8	123	84	112	12	120	121	119
Presque Isle	6	32	4	28	32	4	32	25	26	5	31	32	31
Roscommon	2	11	2	7	11	.....	12	10	11	1	11	12	6
Saginaw	33	152	19	136	157	19	148	112	136	24	153	154	152
St. Clair	38	146	19	123	144	17	145	116	132	24	140	142	140
St. Joseph	40	121	27	97	122	26	119	82	104	28	114	120	117
Sanilac	67	144	33	137	144	35	137	113	101	29	139	143	141
Schoolcraft	6	13	6	12	13	6	13	11	13	6	11	13	13
Shiawassee	52	110	33	106	116	29	116	92	95	29	111	117	118
Tuscola	40	145	24	135	148	19	146	111	122	19	145	149	148
Van Buren	38	147	16	115	131	17	144	98	109	14	140	143	141
Washtenaw	45	166	20	129	164	18	167	78	35	19	160	166	161
Wayne	56	152	25	116	154	17	151	81	138	21	132	153	154
Wexford	16	78	8	57	75	6	72	53	49	7	71	75	72

TABLE XI.

Private, select, or parochial schools for the year ending September 3, 1900.

Counties.	No. of schools.	No. of teachers.		Estimated No. of pupils.	Counties.	No. of schools.	No. of teachers.		Estimated No. of pupils.
		Men.	Women.				Men.	Women.	
Totals	441	428	961	52,239	Kent	32	22	57	3,177
					Keweenaw				
					Lake				
Alcona					Lapeer	1		1	20
Alger					Leelanau	3	2	3	265
Allegan	4	2	3	205	Lenawee	9	7	11	511
Alpena									
Antrim					Livingston	9	2	15	153
					Luce				
Arenac					Mackinac	1	3		50
Baraga					Macomb	20	19	10	1,268
Barry	1	5	13	251	Manistee	7	8	5	598
Bay	21	15	51	3,661	Marquette	5		15	1,200
Benzie									
					Mason	4	3	4	275
Berrien	6	9	13	533	Mecosta	6	11	17	1,813
Branch	1	1		28	Menominee	3	1	6	300
Calhoun	4	14	24	955	Midland	2		2	42
Cass	1	1	6	75	Missaukee	1	1		18
Charlevoix					Monroe	18	11	21	875
Cheboygan	3		6	400	Montcalm				
Chippewa	2		11	464	Montmorency	1	1		30
Clare					Muskegon	8	6	11	728
Clinton	6	3	9	497	Newaygo	2	2	4	123
Crawford	1	1	12	231	Oakland	3		18	710
Delta	3	1	16	815	Oceana	2	1	2	70
Dickinson	1		3	175	Ogemaw				
Eaton					Ontonagon				
Emmet	4	4	19	533	Osceola	2	1	1	70
Genesee	5	4	22	569	Oscoda				
Gladwin	1		1	57	Otsego	1	1		52
Gogebic	1		12	500	Ottawa	3	3	6	185
Grand Traverse	2	2	6	400	Presque Isle	5	7	4	350
Gratiot	2	2	4	120	Roscommon				
Hillsdale	3	1	2	32	Saginaw	30	55	30	2,100
Houghton	12	13	37	2,335	St. Clair	18	12	32	1,651
Huron	10	9	5	795	St. Joseph	5	4	2	165
Ingham	8	6	7	500	Sanilac	4	5	2	245
Ionia	5	4	12	436	Schoolcraft				
Iosco	2	2		120	Shiawassee	3	1	5	50
Iron					Tuscola	8	7	7	702
Isabella	2		7	320	Van Buren	1	1	1	50
Jackson	5	5	21	1,044	Washtenaw	8	8	5	397
Kalamazoo	17	15	54	1,273	Wayne	80	103	283	16,539
Kalkaska					Wexford	3	1	5	133

TABLE XII.

Examination and certification of teachers as reported by the county commissioner for the year ending July 1, 1900.

Counties.	Number of public examinations.	Number of applicants for regular certificates.	Number of applicants for special certificates.	Number of applicants receiving certificates.					Number licensed without experience in teaching.	Number of applicants having received Normal School instruction.	Number of applicants having attended institute during the year.	Number of teachers having State certificates.	Number of teachers holding Normal School certificates.	Number holding certificates issued by county board of examiners.	Number holding certificates issued by city board of education.	Number of legally qualified teachers in the county, including city teachers.	Number making teaching a permanent profession.	Number of certificates suspended.	Number of certificates annulled.	Average per cent required for certificates.		
				First grade.	Indorsed first grade.	Second grade.	Third grade.	Special.												First grade.	Second grade.	Third grade.
Totals	321	13,422	1,055	144	69	1,971	4,744	746	1,887	734	3,796	229	1,696	9,603	3,024	15,313	8,038	2	4	.....	.....	.....
Alcona	4	79	2	3	3	15	23	.....	13	.....	22	1	.....	41	.....	42	a 32	.....	.....	85	80	75
Alger	4	30	14	1	.....	7	11	14	1	.....	18	4	6	24	.....	34	30	.....	.....	85	80	80
Allegan	6	332	43	2	.....	51	103	38	34	.....	.....	6	22	319	.....	347	245	.....	.....	85	80	75
Alpena	3	113	9	.....	.....	9	23	9	7	5	23	1	1	38	39	77	a 47	.....	.....	90	85	75
Antrim	4	101	2	3	.....	16	44	1	5	42	41	4	10	63	.....	123	a100	.....	.....	90	85	80
Arenac	4	56	3	1	1	10	23	3	6	4	18	5	3	51	.....	59	26	.....	.....	85	80	75
Baraga	4	15	7	.....	.....	4	8	.....	3	2	10	1	.....	31	.....	32	31	.....	.....	85	80	75
Barry	4	350	32	1	1	28	80	32	31	7	74	.....	18	260	5	283	a 75	.....	.....	90	85	80
Bay	4	122	1	.....	.....	18	34	1	11	4	25	1	.....	52	a 60	a 260	a225	.....	.....	90	75	75
Benzie	4	69	4	1	.....	7	31	4	15	.....	38	1	7	86	.....	94	70	.....	1	90	85	80
Berrien	4	313	.....	5	5	53	117	.....	72	8	63	10	11	311	72	383	.....	.....	1	90	85	80
Branch	4	245	6	1	1	22	48	6	21	5	50	1	18	120	14	a 160	a 85	.....	.....	85	80	80
Calhoun	4	321	a 30	4	.....	58	90	18	39	12	92	7	a 18	272	.....	a 272	100	.....	.....	90	85	80
Cass	4	244	18	.....	.....	31	65	18	18	9	36	3	14	146	19	182	a100	.....	.....	85	80	75
Charlevoix	4	87	10	.....	.....	22	40	8	11	4	34	1	12	107	.....	120	80	.....	.....	90	85	80
Cheboygan	4	62	10	.....	.....	16	23	5	10	.....	31	3	6	74	17	110	75	.....	.....	90	85	80
Chippewa	4	63	4	.....	.....	10	40	4	20	10	.....	2	.....	65	17	164	a 75	.....	.....	85	80	70
Clare	4	97	6	1	1	17	39	6	18	8	24	2	4	75	.....	80	78	.....	.....	85	80	75
Clinton	4	265	16	2	1	46	77	16	29	.....	125	2	12	191	3	208	a200	.....	.....	85	85	75
Crawford	4	16	6	.....	.....	2	12	6	6	4	11	.....	4	25	.....	30	10	.....	.....	90	85	75
Delta	3	50	6	.....	.....	15	26	6	8	5	25	1	.....	64	8	100	65	.....	.....	85	80	75
Dickinson	2	44	12	.....	.....	3	32	9	18	8	18	4	.....	35	40	99	a 50	.....	.....	80	75	70
Eaton	4	242	6	.....	.....	32	202	1	25	34	168	1	24	149	24	222	a 25	.....	.....	90	85	75
Emmet	4	134	7	1	.....	12	60	4	26	5	27	3	12	107	11	131	a 75	.....	.....	85	80	75
Genesee	5	243	16	8	6	48	99	16	36	12	a100	2	a 12	254	a 70	338	a175	.....	.....	85	80	75
Gladwin	2	42	4	.....	.....	8	17	2	5	1	21	3	2	24	.....	43	43	.....	.....	85	80	75
Gogebic	3	25	.....	.....	.....	1	11	.....	2	.....	11	1	2	11	50	92	50	.....	.....	80	75	70

Grand Traverse	4	138	12	1	1	21	46	9	19	1	47	1	2	68	12	182	160	.....	.....	85	80	75
Gratiot	4	357	40	1	1	22	72	28	31	8	39	3	8	144	.....	185	125	.....	.....	85	85	75
Hillsdale	4	366	25	2	2	53	119	17	50	25	150	2	23	273	15	313	130	.....	.....	85	85	80
Houghton	3	147	36	2	.....	30	58	30	20	14	17	12	42	124	a 90	256	a100	.....	.....	90	80	70
Huron	3	.....	4	3	2	26	57	3	12	.....	29	1	6	177	.....	184	a 50	.....	.....	85	80	75
Ingham	4	347	18	2	2	42	88	6	41	6	50	3	14	190	85	275	a100	.....	.....	85	85	80
Ionia	4	277	19	2	1	33	80	10	25	2	40	15	11	205	35	240	180	.....	.....	90	85	75
Iosco	3	45	3	.....	.....	8	4	3	2	.....	6	1	3	48	5	57	50	.....	.....	90	85	75
Iron	3	41	3	.....	.....	4	18	3	3	2	22	.....	6	35	.....	52	5	.....	.....	90	85	75
Isabella	4	128	.....	1	1	14	52	.....	20	60	58	.....	200	118	21	274	160	.....	.....	90	85	83
Jackson	5	303	25	1	.....	37	80	20	48	67	109	.....	11	263	90	353	a 65	.....	.....	85	80	75
Kalamazoo	4	294	10	3	3	33	76	5	34	8	65	1	20	175	.....	290	80	.....	.....	90	85	75
Kalkaska	4	99	14	.....	.....	12	20	12	8	1	17	1	2	75	.....	80	a 12	.....	.....	90	85	80
Kent	7	392	1	5	2	45	182	1	91	2	113	8	12	329	374	703	a100	.....	.....	85	85	85
Keweenaw	2	10	.....	1	1	1	2	.....	1	.....	.....	.....	1	7	.....	9	9	.....	.....	95	85	75
Lake	4	57	12	.....	.....	8	35	12	22	1	18	1	.....	47	.....	48	30	.....	.....	90	85	80
Lapeer	3	227	6	14	4	37	91	2	60	5	90	2	15	185	14	216	a100	.....	.....	85	80	75
Leelanau	4	.....	3	2	1	16	29	2	10	2	16	2	.....	57	.....	58	58	.....	.....	90	80	75
Lenawee	5	305	25	2	.....	48	144	14	48	20	75	15	13	299	39	366	a200	.....	.....	85	80	75
Livingston	4	266	25	.....	.....	34	106	2	29	15	97	1	15	251	.....	267	a 75	.....	.....	90	85	80
Luce	4	19	4	.....	.....	1	.....	4	.....	.....	3	.....	2	.....	.....	18	10	.....	.....	.....	85	.....
Mackinac	4	40	11	1	.....	10	18	9	9	4	11	1	5	47	2	56	a 15	.....	.....	90	80	75
Macomb	4	362	35	7	1	33	55	5	22	1	37	3	10	163	25	188	180	.....	.....	85	80	75
Manistee	2	54	13	1	1	10	33	13	21	16	25	3	3	43	85	129	.....	.....	.....	85	80	75
Marquette	3	52	16	1	.....	17	13	16	4	6	47	5	15	105	80	205	205	.....	.....	85	80	75
Mason	4	101	4	.....	.....	16	61	2	31	1	50	.....	3	99	42	143	138	.....	.....	90	85	75
Mecosta	4	226	.....	5	5	30	104	.....	69	2	112	.....	.....	189	20	209	a 30	.....	.....	85	80	75
Menominee	3	116	10	2	.....	16	52	17	13	13	57	1	.....	99	49	148	80	.....	.....	85	80	75
Midland	4	90	a 20	1	1	10	32	14	14	4	18	3	15	91	.....	109	a 60	.....	.....	85	80	75
Missaukee	4	135	12	1	.....	21	21	8	11	14	34	.....	6	68	.....	76	69	.....	.....	90	85	75
Monroe	4	301	5	.....	.....	40	105	5	51	20	135	2	4	230	25	260	150	1	1	85	75	65
Montcalm	4	256	6	8	2	40	94	6	29	15	53	3	9	134	12	242	a150	.....	.....	85	80	80
Montmorency	3	23	9	.....	.....	4	11	6	.....	4	4	.....	8	22	.....	29	13	.....	.....	85	80	75
Muskegon	4	166	14	2	.....	17	64	10	27	8	38	5	4	181	105	286	a105	.....	.....	90	85	75
Newaygo	4	267	36	2	1	35	78	36	23	3	71	1	12	151	.....	164	151	.....	.....	90	85	80
Oakland	5	263	18	1	.....	59	110	18	55	40	66	4	20	287	a 27	321	a300	.....	.....	90	85	80
Oceana	4	184	14	4	1	20	38	11	12	3	33	1	8	139	.....	148	101	.....	1	90	85	75
Ogemaw	4	70	.....	.....	.....	10	30	.....	15	1	40	.....	1	45	.....	46	46	.....	.....	90	85	75
Ontonagon	4	25	8	.....	.....	8	10	8	6	5	13	2	3	1	.....	29	22	.....	.....	90	85	75
Osceola	4	176	19	1	1	21	42	11	23	5	36	5	20	149	.....	174	a100	.....	.....	85	80	80
Oscoda	4	18	6	.....	.....	3	12	6	5	.....	8	.....	.....	16	.....	16	12	.....	.....	85	80	75
Otsego	4	83	11	.....	.....	10	29	11	9	2	30	2	4	60	.....	66	50	.....	.....	90	80	70
Ottawa	4	228	5	2	2	56	49	5	10	5	72	2	4	182	60	250	a125	.....	.....	85	85	85
Presque Isle	3	22	6	.....	.....	3	10	4	5	2	8	10	5	15	.....	28	20	1	.....	90	80	70

a Estimated.

TABLE XII.—CONCLUDED.

Counties.	Number of public examinations.	Number of applicants for regular certificates.	Number of applicants for special certificates.	Number of applicants receiving certificates.					Number licensed without experience in teaching.	Number of applicants having received Normal School instruction.	Number of applicants having attended institute during the year.	Number of teachers having State certificates.	Number of teachers holding Normal School certificates.	Number holding certificates issued by county board of examiners.	Number holding certificates issued by city board of education.	Number of legally qualified teachers in the county, including city teachers.	Number making teaching a permanent profession.	Number of certificates suspended.	Number of certificates annulled.	Average per cent required for certificates.		
				First grade.	Indorsed first grade.	Second grade.	Third grade.	Special.												First grade.	Second grade.	Third grade.
Roscommon	4	19	1	....	....	4	12	1	4	1	3	1	....	17	....	18	12	....	....	85	75	70
	5	270	15	4	....	56	69	7	30	6	99	6	4	264	217	451	320	....	....	85	80	90
Saginaw	4	287	20	....	....	30	106	16	43	5	84	1	13	270	66	362	a 25	....	....	85	80	75
St. Clair	3	212	a 50	2	....	25	69	42	18	18	47	8	18	166	....	192	a120	....	....	85	85	80
St. Joseph	4	344	4	4	4	42	126	2	48	10	43	6	3	148	....	157	121	....	....	90	85	80
Sanilac	3	25	2	....	....	4	14	2	3	2	14	....	10	41	....	52	50	....	....	90	90	75
Schoolcraft	4	300	20	3	1	41	102	14	33	20	100	2	7	147	45	166	a 85	....	....	80	70	75
Shiawassee	4	248	22	9	6	43	99	7	24	4	87	2	10	206	....	223	a185	....	....	90	85	80
Tuscola	4	295	26	1	1	58	96	6	43	7	....	5	11	218	....	240	a180	....	....	85	80	75
Van Buren	4	239	25	1	1	26	111	....	44	28	50	1	15	185	....	286	a190	....	....	85	80	75
Washtenaw	4	241	15	5	1	57	93	5	54	31	93	4	817	266	903	1,228	a540	....	....	85	80	75
Wayne	5	136	18	....	....	8	35	13	15	....	12	1	5	104	32	136	a122	....	....	85	75	70
Wexford	4																					

a Estimated.

TABLE XIII.

Miscellaneous statistics as reported by the county commissioner of schools for the year ending July 1, 1900.

Counties.	Number of meetings of county teachers' associations.	Number of other teachers' meetings.	Number of days devoted to meetings of county board.	Amount allowed by board of supervisors for stationery, etc.	Amount of compensation received by members of the board other than the commissioner.	Salary of the commissioner.	Amount of institute fees collected.	Number of districts visited by the commissioner during the year.
Totals	185	708	791	$10,434 69	$17,052 15	$68,435 00	$10,237 50	7,235
Alcona	3	.....	4	$18 00	$96 00	$200 00	$23 00	28
Alger	.....	4	.....	200 00	96 00	300 00	21 00	7
Allegan	.....	17	24	200 00	468 65	1,200 00	195 00	177
Alpena	2	.....	12	a 90 00	216 00	550 00	38 00	51
Antrim	2	.....	16	123 00	128 00	600 00	51 50	73
Arenac	.....	1	12	50 00	96 00	250 00	21 00	42
Baraga	.....	a 45	4	7 60	82 00	500 00	11 50	5
Barry	2	a 30	4	123 87	288 00	1,200 00	217 50	142
Bay	3	18	6	300 00	a 240 00	1,000 00	217 50	66
Benzie	.....	1	11	111 72	104 00	500 00	45 00	49
Berrien	2	28	6	196 75	280 00	1,200 00	253 50	144
Branch	3	18	4	a 95 00	229 00	1,200 00	121 50	126
Calhoun	3	72	17	171 32	214 00	1,200 00	225 00	164
Cass	2	.....	10	88 73	361 00	1,000 00	128 00	106
Charlevoix	2	.....	4	a 90 00	96 00	600 00	66 00	64
Cheboygan	2	.....	12	81 84	226 00	500 00	75 50	60
Chippewa	9	.....	29	400 00	234 00	800 00	49 50	70
Clare	2	.....	12	a 20 00	82 00	500 00	64 50	47
Clinton	2	3	.....	100 00	232 00	1,200 00	156 00	129
Crawford	.....	.....	4	a 8 00	24 00	200 00	13 50	16
Delta	.....	.....	12	20 00	140 00	500 00	44 00	49
Dickinson	.....	10	.....	a 70 00	48 00	900 00	61 00	6
Eaton	2	27	14	215 00	254 00	1,200 00	195 00	137
Emmet	6	.....	5	96 50	192 00	600 00	79 50	61
Genesee	2	6	6	161 93	384 00	1,200 00	237 50	151
Gladwin	1	.....	2	50 26	80 00	300 00	32 00	35
Gogebic	.....	.....	2	25 00	24 00	450 00	33 50	5
Grand Traverse	.....	4	4	50 00	224 00	650 00	101 50	66
Gratiot	2	6	12	a 140 00	.....	1,200 00	195 50	132
Hillsdale	3	24	6	200 00	260 00	1,200 00	211 00	290
Houghton	.....	.....	.....	55 00	120 00	800 00	186 50	26
Huron	4	2	3	200 00	256 00	1,000 00	166 00	113
Ingham	3	.....	37	155 47	310 00	1,350 00	222 50	134
Ionia	3	12	12	200 00	250 00	1,200 00	181 50	141
Iosco	2	.....	3	a 70 00	96 00	200 00	27 00	21
Iron	2	4	2	28 00	48 00	400 00	17 00	8
Isabella	3	4	4	74 00	108 00	1,000 00	62 50	101
Jackson	2	5	5	265 81	328 00	1,200 00	204 50	157
Kalamazoo	2	50	7	200 00	384 00	1,200 00	179 00	137
Kalkaska	3	.....	4	47 88	133 00	500 00	57 50	48
Kent	5	32	50	200 00	892 00	1,500 00	511 00	190
Keweenaw	.....	.....	9	11 00	52 00	125 00	6 50	8
Lake	.....	.....	4	45 00	192 00	400 00	37 00	45
Lapeer	2	21	10	130 00	260 00	1,200 00	195 50	124
Leelanau	2	.....	12	.....	98 00	550 00	51 50	57
Lenawee	1	64	6	210 00	288 00	1,200 00	254 50	147
Livingston	3	.....	4	95 00	200 00	1,200 00	168 50	135
Luce	.....	.....	20	10 00	200 00	200 00	9 00	4
Mackinac	.....	.....	8	27 96	80 00	400 00	28 50	29
Macomb	1	2	5	200 00	352 00	1,100 00	204 50	115

a Estimated.

TABLE XIII—CONCLUDED.

Counties.	Number of meetings of county teachers' associations.	Number of other teachers' meetings.	Number of days devoted to meetings of county board.	Amount allowed by board of supervisors for stationery, etc.	Amount of compensation received by members of the board other than the commissioner.	Salary of the commissioner.	Amount of institute fees collected.	Number of districts visited by the commissioner during the year.
Manistee	.....	.....	6	$20 00	$129 00	$600 00	$81 50	55
Marquette	.....	10	4	236 89	112 00	1,500 00	106 50	39
Mason	.....	10	12	200 00	197 00	550 00	75 50	64
Mecosta	10	20	15	a 175 00	249 00	1,000 00	181 50	107
Menominee	2	.....	9	39 80	50 00	1,000 00	102 00	31
Midland	2	.....	3	94 01	132 50	500 00	71 00	70
Missaukee	2	.....	13	a 45 00	98 00	550 00	36 00	52
Monroe	4	.....	4	320 00	288 00	1,200 00	104 00	137
Montcalm	5	.....	12	200 00	286 00	1,200 00	168 50	138
Montmorency	.....	.....	12	15 00	96 00	300 00	12 00	26
Muskegon	.....	8	4	114 85	304 00	1,200 00	139 00	89
Newaygo	3	2	17	200 00	466 00	1,000 00	112 00	108
Oakland	5	.....	9	275 00	264 00	1,200 00	240 50	204
Oceana	2	20	15	170 18	120 00	750 00	79 00	88
Ogemaw	3	.....	4	.....	80 00	300 00	46 50	41
Ontonagon	3	.....	4	19 20	96 00	300 00	18 50	26
Osceola	4	1	4	200 00	239 50	750 00	106 00	94
Oscoda	.....	.....	3	16 35	88 00	200 00	11 00	12
Otsego	2	.....	20	50 00	164 00	500 00	51 00	39
Ottawa	.....	10	4	93 00	180 00	1,000 00	146 00	120
Presque Isle	4	.....	12	100 00	80 00	360 00	40 00	40
Roscommon	.....	.....	12	10 00	96 00	200 00	9 80	12
Saginaw	2	2	15	168 77	640 00	1,200 00	290 50	150
St. Clair	2	8	12	200 00	348 00	1,500 00	222 00	150
St. Joseph	1	49	9	a 200 00	a 200 00	1,200 00	167 00	124
Sanilac	20	7	4	152 00	300 00	1,200 00	189 00	145
Schoolcraft	.....	.....	12	200 00	96 00	500 00	20 50	26
Shiawassee	2	4	4	200 00	120 00	1,200 00	211 50	125
Tuscola	1	a 30	4	200 00	162 50	1,200 00	184 00	142
Van Buren	1	14	4	a 190 00	258 00	1,200 00	139 50	151
Washtenaw	7	.....	40	200 00	320 00	1,200 00	176 00	163
Wayne	3	1	25	200 00	572 00	1,500 00	635 00	153
Wexford	2	2	4	200 00	175 00	750 00	98 50	76

a Estimated.

TABLE XIV.

Condition of schools and school houses as reported by the county commissioners of schools for the school year ending July 1, 1900.

Counties.	Number of schools supplied with dictionaries.	Number of schools supplied with maps.	Number of schools supplied with globes.	Number of school houses properly heated and ventilated.	Number of schools having uniform text-books in each branch.	Number of schools having a prescribed course of study.	Number of schools properly classified.	Number of schools in which physiology, etc., is taught.	Number of districts that have adopted text-books in physiology.	Number of township unit districts.	Number of districts furnishing free text-books.	Number of private and parochial schools.	Number of pupils enrolled in same.
Totals	6,571	6,320	5,802	3,293	6,249	3,604	6,258	7,231	5,819	119	737	231	20,146
Alcona	26	28	25	5	28	1	28	28	28	1	5	.....	.....
Alger	20	20	20	9	25	.....	25	25	25	7	25	.....	.....
Allegan	179	154	152	170	144	184	162	124	184	.....	12	3	100
Alpena	36	40	24	.....	28	.....	34	51	45	5	6	5	a 455
Antrim	70	70	71	4	a 63	4	66	73	73	.....	.....	.....	.....
Arenac	36	40	23	18	42	40	38	37	37	.....	4	2	28
Baraga	18	18	18	18	2	18	18	18	18	5	5	1	125
Barry	a 125	120	85	125	145	5	144	145	145	.....	4	.....	.....
Bay	64	63	65	12	66	1	60	66	66	1	20	6	a 300
Benzie	46	45	45	20	40	20	a 48	49	a 20	.....	4	1	25
Berrien	138	a 120	a 118	a 100	144	144	140	144	144	.....	11	3	a 180
Branch	a 120	108	100	13	110	4	a 95	127	127	.....	.....	2	a 20
Calhoun	a 150	a 145	a 140	a 80	a 150	a 10	a 140	164	.....	.....	a 8	2	a 330
Cass	98	93	87	.....	71	a 114	114	a 114	a 114	.....	2	.....	.....
Charlevoix	63	63	62	9	55	64	64	64	64	.....	13	.....	.....
Cheboygan	52	59	45	23	55	8	60	60	a 45	3	21	4	a 300
Chippewa	a 40	a 60	a 40	a 15	30	40	20	75	.....	6	17	3	a 500
Clare	42	35	36	2	40	.....	54	54	54	.....	a 12	.....	.....
Clinton	129	a 110	a 65	a 100	129	129	129	129	a 129	.....	4	2	360
Crawford	17	17	17	17	17	1	10	17	12	1	a 10	.....	.....
Delta	38	44	40	40	50	50	50	50	50	6	2	2	800
Dickinson	15	17	15	20	23	23	23	23	23	6	6	.....	.....
Eaton	a 100	a 100	a 100	7	137	137	137	137	a 90	.....	8	1	202
Emmet	58	55	23	6	21	4	.....	58	.....	.....	12	3	260
Genesee	135	152	129	12	150	6	150	140	75	.....	2	1	a 75
Gladwin	32	33	31	.....	34	2	34	34	.....	1	6	.....	.....
Gogebic	13	13	13	6	13	.....	13	13	5	5	5	.....	.....
Grand Traverse	66	64	66	6	60	5	6	66	66	1	8	1	a 400
Gratiot	126	95	96	14	125	115	115	132	.....	.....	2	1	.....
Hillsdale	159	144	146	120	130	166	160	166	166	.....	.....	.....	.....
Houghton	27	27	26	30	20	18	27	25	16	1	10	4	1,995
Huron	97	100	86	10	107	113	113	113	113	.....	25	7	.....
Ingham	120	96	84	a 16	50	a 110	a 40	128	114	.....	.....	.....	.....
Ionia	120	125	125	120	130	.....	100	125	.....	.....	6	4	200
Iosco	21	21	21	.....	8	5	12	23	23	1	4	2	a 150
Iron	40	44	40	2	47	43	47	47	8	8	3	.....	.....
Isabella	54	74	40	30	90	3	102	102	102	.....	5	1	260
Jackson	96	81	75	120	135	57	140	150	90	.....	.....	.....	.....
Kalamazoo	132	120	100	22	120	130	130	135	135	.....	7	2	a 400
Kalkaska	45	42	39	50	49	.....	50	50	50	.....	18	.....	.....
Kent	240	236	234	147	200	206	175	206	206	.....	3	30	3,604
Keweenaw	.....	9	9	10	10	7	10	10	10	3	.....	.....	.....
Lake	37	39	37	1	21	3	10	45	40	.....	8	.....	.....
Lapeer	130	101	103	a 20	90	11	96	a 100	a 75	.....	1	.....	.....
Leelanau	.....	.....	.....	.....	.....	.....	.....	65	.....	.....	a 4	3	.....
Lenawee	190	180	169	95	190	a 150	185	195	192	.....	3	5	a 500

a Estimated.

TABLE XIV.—CONCLUDED.

Counties.	Number of schools supplied with dictionaries.	Number of schools supplied with maps.	Number of schools supplied with globes.	Number of school houses properly heated and ventilated.	Number of schools having uniform text-books in each branch.	Number of schools having a prescribed course of study.	Number of schools properly classified.	Number of schools in which physiology, etc. is taught.	Number of districts that have adopted text-books in physiology.	Number of township unit districts.	Number of districts furnishing free text-books.	Number of private and free parochial schools.	Number of pupils enrolled in same.
Livingston	125	95	100	25	80	23	95	135	135	.....	.....	.....	.....
Luce	a 7	a 10	a 7	1	a 6	a 2	a 11	a 11	11	4	4	.....	.....
Mackinac	19	27	20	a 23	a 20	a 27	a 27	a 25	15	10	6	1	.....
Macomb	115	115	115	115	115	115	115	115	115	.....	.....	11	a 1,100
Manistee	58	58	58	58	58	58	58	58	58	1	5	3	.....
Marquette	39	39	a 20	a 12	39	6	39	39	39	16	14	a 4	a 800
Mason	64	62	63	a 30	62	64	48	64	60	.....	18	1	.....
Mecosta	94	89	97	a 70	a 100	a 10	80	107	107	.....	17	4	a 600
Menominee	60	60	60	3	66	66	66	66	66	5	34	.....	.....
Midland	a 65	60	60	4	70	74	68	69	70	.....	3	1	a 30
Missaukee	42	48	46	a 50	47	4	a 40	a 46	a 50	.....	43	.....	.....
Monroe	135	130	120	125	120	.....	123	137	.....	.....	.....	25	.....
Montcalm	135	125	110	a 75	a 125	a 120	a 110	a 138	a 125	.....	4	2	a 80
Montmorency	19	26	22	3	12	.....	23	26	26	5	12	1	27
Muskegon	76	70	71	a 87	72	15	40	59	60	.....	8	7	a 800
Newaygo	a 100	a 100	a 100	2	a 100	a 100	112	112	112	.....	35	1	.....
Oakland	190	175	150	a 160	200	.....	a 175	207	207	.....	.....	2	a 225
Oceana	85	57	82	2	85	a 4	a 79	87	2	.....	2	2	a 80
Ogemaw	38	36	34	.....	27	3	40	40	35	1	3	.....	.....
Ontonagon	21	22	19	6	20	14	10	26	26	8	1	.....	.....
Osceola	90	86	82	4	27	6	71	94	81	.....	21	1	50
Oscoda	12	13	10	10	6	.....	10	12	13	2	1	.....	.....
Otsego	40	35	35	30	38	40	38	40	40	.....	17	1	75
Ottawa	120	120	120	90	121	90	90	110	80	.....	21	2	150
Presque Isle	40	38	40	35	40	38	37	40	40	2	20	1	60
Roscommon	7	10	7	1	8	1	12	12	a 9	.....	1	.....	.....
Saginaw	142	139	133	153	178	5	175	179	154	.....	31	a 18	a 2,000
St. Clair	a 125	a 128	a 126	a 85	a 125	a 15	173	173	25	.....	10	10	a 1,000
St. Joseph	118	112	80	6	a 120	a 50	123	123	123	.....	1	4	a 200
Saulac	107	130	81	87	129	65	65	144	144	.....	8	4	80
Schoolcraft	21	20	12	6	27	1	26	26	26	4	17	.....	.....
Shiawassee	95	70	50	12	a 120	11	75	120	a 100	.....	1	1	a 20
Tuscola	124	126	134	a 135	145	148	148	145	145	.....	8	12	a 450
Van Buren	149	138	140	a 100	a 50	a 100	134	151	151	.....	2	.....	.....
Washtenaw	120	98	103	14	70	164	127	164	164	.....	1	.....	.....
Wayne	141	147	140	30	151	14	151	153	a 150	.....	7	a 11	a 750
Wexford	74	76	70	60	76	.....	70	76	76	.....	a 30	.....	.....

a Estimated.

TABLE XV.

Showing the extent to which physiology was taught in the schools of the State during the year ending September 3, 1900, as compiled from directors' reports.

Counties.	Number of districts in county.	Number of districts reporting physiology taught.	Number of districts reporting physiology not taught.	Number of districts not reporting.	Counties.	Number of districts in county.	Number of districts reporting physiology taught.	Number of districts reporting physiology not taught.	Number of districts not reporting.
Totals	7,163	5,987	350	826	Kent	207	171	5	31
					Keweenaw	5	4	.....	1
					Lake	40	33	2	5
					Lapeer	135	96	14	25
Alcona	27	25	1	1	Leelanau	57	49	1	7
Alger	7	7	.....	.....					
Allegan	184	155	21	8	Lenawee	197	194	2	1
Alpena	28	23	3	2	Livingston	135	98	7	30
Antrim	72	60	2	10	Luce	4	4	.....	.....
					Mackinac	16	14	.....	2
Arenac	39	34	3	2	Macomb	115	97	5	13
Baraga	5	5	.....	.....					
Barry	146	124	17	5	Manistee	59	49	1	9
Bay	68	56	8	4	Marquette	19	17	.....	2
Benzie	49	41	3	5	Mason	63	57	1	5
					Mecosta	105	89	4	12
Berrien	147	129	10	8	Menominee	34	29	3	2
Branch	129	121	6	2					
Calhoun	164	142	4	18	Midland	73	51	3	19
Cass	112	93	4	15	Missaukee	51	42	2	7
Charlevoix	68	60	4	4	Monroe	139	111	11	17
					Montcalm	139	115	5	19
Cheboygan	54	51	2	1	Montmorency	7	7	.....	.....
Chippewa	48	35	1	12					
Clare	51	41	1	9	Muskegon	91	75	7	9
Clinton	129	107	3	19	Newaygo	117	96	4	17
Crawford	23	18	1	4	Oakland	207	145	24	38
					Oceana	88	78	5	5
Delta	27	21	1	5	Ogemaw	40	31	2	7
Dickinson	8	8	.....	.....					
Eaton	146	115	10	21	Ontonagon	9	7	.....	2
Emmet	69	54	2	13	Osceola	95	86	.....	9
Genesee	160	143	10	7	Oscoda	12	11	1	.....
					Otsego	40	30	4	6
Gladwin	37	27	1	9	Ottawa	122	118	3	1
Gogebic	7	6	1	.....					
Grand Traverse	67	45	3	19	Presque Isle	34	31	.....	3
Gratiot	132	107	9	16	Roscommon	13	13	.....	.....
Hillsdale	166	161	1	4	Saginaw	157	142	3	12
					St. Clair	154	133	3	18
Houghton	31	26	.....	5	St. Joseph	123	96	4	23
Huron	114	97	.....	17					
Ingham	137	111	2	24	Sanilac	148	125	9	14
Ionia	143	108	11	26	Schoolcraft	13	11	.....	2
Iosco	26	22	3	1	Shiawassee	125	96	14	15
					Tuscola	149	134	1	14
Iron	8	7	1	.....					
Isabella	101	80	5	16	Van Buren	151	119	5	27
Jackson	157	125	11	21	Washtenaw	167	157	2	8
Kalamazoo	138	93	15	30	Wayne	155	138	7	10
Kalkaska	50	43	1	6	Wexford	79	64	5	10

TABLE XVI.

Graded school statistics compiled from inspectors'

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Totals.....	.....	427,966	301,275	9,651	121,452	$15,045,291	$2,044,679 82	1,073	5,894
Acme.....	G'd Traverse.	111	69	1	180	$1,000	$30 00	.....	3
Ada.....	Kent.....	105	105	1	180	5,500	.....	1	2
Addison.....	Lenawee.....	178	179	26	180	2,500	.....	2	2
Adrian.....	Lenawee.. ...	2,452	1,702	70	194	147,000	.....	3	38
Akron.....	Tuscola.....	142	110	5	180	1,500	.....	1	1
Alabaster.....	Iosco.....	128	86	.....	180	1,500	.....	.....	2
Alamo.....	Kalamazoo...	60	47	19	180	1,500	.....	1	2
Alanson.....	Emmet.....	130	106	2	180	2,500	1,000 00	.....	3
Alaska.....	Kent.....	78	66	4	180	2,000	.....	1	1
Alba.....	Antrim.....	152	103	2	180	5,000	.....	1	2
Albert Tp.....	Montmore'cy	223	152	3	160	5,000	.....	1	4
Albion.....	Calhoun.....	1,108	1,125	48	183	70,000	5,000 00	3	24
Algonac.....	St. Clair.....	496	337	6	180	11,500	1,900 00	1	7
Allegan.....	Allegan.....	680	670	29	190	35,000	12,000 00	2	15
Allen.....	Hillsdale.....	69	66	14	180	8,000	100 00	1	2
Allouez Tp.....	Keweenaw....	445	324	.....	180	3,000	.....	1	3
Alma.....	Gratiot.....	583	588	38	200	20,000	5,000 00	2	12
Almont.....	Lapeer.....	290	256	25	200	13,500	.....	1	5
Alpena.....	Alpena.....	4,378	2,170	.....	196	88,269	.....	3	37
Ann Arbor.....	Washtenaw..	3,185	2,169	229	190	245,000	29,875 12	9	60
Applegate.....	Sanilac.....	151	108	3	172	700	.....	1	1
Arcadia.....	Manistee.....	160	78	2	180	2,000	11 30	1	1
Armada..... ..	Macomb.....	205	171	38	180	10,000	360 00	2	3
Arvon Tp.....	Baraga.....	101	64	.....	160	2,000	.....	2	1
Ashley.....	Gratiot.....	213	134	7	180	2,500	.....	1	2
Athens.....	Calhoun.....	176	136	12	180	4,000	.....	1	4
Atkinson Tp.....	Iron.....	67	41	.....	160	1,625	.....	2	1
Atlantic Mine.....	Houghton....	982	606	18	200	14,000	.....	4	9
Attica.....	Lapeer.....	125	86	5	200	1,200	.....	1	1
Auburn.....	Bay.....	188	106	3	180	1,400	480 00	.....	2
Au Gres.....	Arenac.....	191	120	.....	160	3,500	2,244 00	1	2
Augusta.....	Kalamazoo...	169	152	15	180	3,000	.....	1	4
Au Sable.....	Iosco.....	651	483	.....	180	7,000	.....	1	7
Au Train.....	Alger.....	110	103	.....	152	2,800	.....	.....	5
Bad Axe.....	Huron.....	465	410	35	200	20,000	12,000 00	1	10
Bainbridge.....	Berrien.....	119	80	.....	160	2,000	.....	1	1
Baldwin.....	Lake.....	138	103	2	196	1,000	.....	1	1
Baldwin Tp.....	Delta.....	215	152	10	127	3,400	60 16	2	6
Bancroft.....	Shiawassee...	136	119	18	197	5,000	.....	1	3
Bangor.....	Van Buren...	357	288	62	190	9,000	.....	3	5
Bannister.....	Gratiot.....	105	89	2	180	1,700	.....	2	1
Baraga.....	Baraga.....	742	482	.....	166	10,000	.....	1	8
Baroda.....	Berrien.....	172	162	6	160	3,000	900 00	1	2
Barryton.....	Mecosta.....	177	109	5	180	2,000	.....	1	1
Bates Tp.....	Iron.....	146	100	.....	120	2,500	147 29	.....	9
Bath.....	Clinton.....	99	69	15	180	3,500	.....	1	2
Bay Port.....	Huron.....	101	93	4	175	1,500	910 37	1	2
Battle Creek.....	Calhoun.....	4,322	3,403	83	186	250,000	.....	6	71
Bay City.....	Bay.....	9,347	4,669	66	198	310,000	5,000 00	7	113
Beacon.....	Marquette...	611	440	.....	200	12,000	.....	1	9
Bear Lake.....	Manistee.....	170	127	4	180	2,500	.....	1	3
Beaverdam.....	Ottawa.....	141	95	.....	190	1,000	.....	1	1
Beaverton.....	Gladwin..... .	307	185	.....	200	3,000	852 55	2	3
Bedford Tp. 6.....	Calhoun.....	99	58	10	178	1,500	.....	1	1

TABLE XVI.

reports for the year ending September 3, 1900.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
9,844	55,699	$697,516 09	$2,422,957 15	$70 86	$43 50	$3,120,260 94	$5,390,152 59	$86,435 92
.....	18	.....	$585 00	.....	$32 50	$585 00	$653 75	.....
9	18	$405 00	477 00	$45 00	26 50	882 00	1,142 46	.....
18	18	850 00	496 00	47 22	27 50	1,345 00	1,906 98	$249 80
20	340	3,108 75	15,653 00	155 44	41 19	18,761 75	29,286 33	1,073 89
10	10	350 00	305 00	35 00	30 50	655 00	753 97	16 75
.....	13	.....	409 50	.....	32 76	409 50	536 14	.....
9	9	300 00	203 55	33 33	22 62	503 55	579 46	137 84
.....	24	.....	705 00	.....	30 00	705 00	1,074 80	2 50
9	7	315 00	71 50	35 00	11 00	386 50	552 56	17 25
9	18	450 00	600 00	50 00	33 33	1,050 00	1,203 98	5 25
10	36	600 00	1,180 00	60 00	32 78	1,780 00	2,810 17	15 00
29	228	2,625 00	8,436 00	92 11	37 00	11,061 00	16,117 19	535 00
9	52	720 00	1,730 30	80 00	33 28	2,450 30	3,525 31	14 50
19	139	1,750 00	5,229 00	92 11	37 62	6,979 00	29,186 28	179 80
9	18	575 00	405 00	63 89	22 50	980 00	1,142 98	125 41
4	24	220 00	1,170 00	55 00	48 75	1,390 00	4,397 63	.....
20	110	1,400 00	3,550 00	70 00	32 27	4,950 00	8,432 55	209 75
10	50	700 00	1,700 00	70 00	34 00	2,400 00	3,442 51	257 34
30	370	3,200 00	14,127 85	106 66	38 18	17,327 85	32,856 59	.....
85	570	9,575 00	26,890 00	112 12	47 18	36,465 00	59,316 97	6,029 21
9	9	405 00	153 00	45 00	17 00	558 00	615,94	....
9	8	358 00	200 00	39 78	25 00	558 00	851 92	.....
18	27	852 00	885 00	47 33	32 78	1,737 00	2,317 54	415 89
16	8	760 00	280 00	47 50	35 00	1,040 00	1,322 63	.....
9	18	407 00	477 00	45 22	26 50	884 00	1,243 78	5 68
9	27	450 00	808 50	50 00	39 95	1,258 50	1,671 73	95 50
10	6	487 50	240 00	48 75	40 00	727 50	826 30	.....
40	65	2,862 00	3,445 50	71 55	53 42	6,307 50	8,286 09	.....
10	10	400 00	250 00	40 00	25 00	650 00	777 60	.....
.....	18	.....	585 00	.....	32 50	585 00	986 69	....
8	16	380 00	480 00	47 50	30 00	860 00	2,907 00	.....
9	36	675 00	1,035 00	75 00	28 75	1,710 00	2,428 54	90 85
9	63	675 00	2,154 83	75 00	34 20	2,829 83	3,310 29	.....
.....	38	.....	1,920 00	.....	50 53	1,920 00	2,758 65	.....
10	100	800 00	3,085 00	80 00	30 85	3,885 00	6,055 54	268 50
4	8	160 00	280 00	40 00	35 00	440 00	689 12	.....
10	10	400 00	300 00	40 00	30 00	700 00	906 84	11 26
14	24	625 00	822 50	44 64	34 27	1,447 50	2,860 59	.....
10	30	800 00	900 00	80 00	30 00	1,700 00	2,549 82	160 53
29	38	1,336 50	1,155 30	46 89	30 40	2,491 80	4,296 08	317 00
11	7	400 00	175 00	36 36	25 00	575 00	637 28	10 50
10	70	1,200 00	3,000 00	120 00	42 86	4,200 00	7,074 07	.....
8	16	360 00	534 00	45 00	33 37	894 00	1,843 53	33 10
9	9	360 00	270 00	40 00	30 00	630 00	984 71	.....
.....	30	.....	990 00	.....	33 00	990 00	2,138 13	.....
9	13	405 00	363 75	45 00	27 98	768 75	971 15	80 50
8	9	389 50	245 00	47 50	28 00	634 50	956 78	3 75
60	710	5,475 00	30,091 26	91 25	42 38	35,566 26	62,442 04	739 63
70	1,130	7,425 00	46,193 30	106 07	40 88	53,618 30	77,801 26	671,47
10	90	1,000 00	4,727 90	100 00	52 53	5,727 90	9,972 43	.....
9	18	495 00	630 00	55 00	35 00	1,125 00	1,620 05	21 30
9	10	360 00	246 00	40 00	24 60	606 00	870 13	.....
13	24	438 00	782 00	33 69	32 58	1,220 00	1,533 85	.....
9	9	385 00	270 00	42 78	30 00	655 00	855 23	69 00

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Belding	Ionia	784	540	11	200	$16,000	$3,500 00	1	13
Bellaire	Antrim	404	337	14	180	7,000	165 30	1	7
Belleville	Wayne	126	128	15	192	10,000	.....	1	3
Bellevue	Eaton	275	270	36	190	6,000	1,398 93	2	5
Benton Tp. 5 fl	Berrien	210	114	2	178	3,000	.....	1	2
Benton Harbor	Berrien	1,689	1,547	24	180	65,000	18,000 00	2	30
Benzonia	Benzie	225	180	9	180	5,000	2,438 00	2	3
Berlamont	Van Buren	96	53	.....	170	2,000	.....	1	1
Berlin	Ottawa	109	94	14	180	1,200	.....	.....	2
Berne	Huron	178	105	.....	180	1,000	500 00	.....	2
Berrien Springs	Berrien	200	150	17	180	6,000	.....	1	4
Bessemer	Gogebic	948	864	2	184	38,000	11,000 00	1	18
Big Creek and Mentor Tp	Oscoda	145	116	.....	132	1,500	295 68	1	5
Big Rapids	Mecosta	1,446	1,025	29	190	40,000	....	1	23
Bingham	Leelanau	120	78	.....	180	1,400	.....	1	1
Birmingham	Oakland	372	333	84	200	8,000	.....	1	7
Blanchard	Isabella	71	59	.....	140	700	15 00	1	1
Blissfield Tp. 1 fl	Lenawee	199	174	9	200	6,000	.....	1	3
Blissfield Tp. 2 fl	Lenawee	228	181	27	200	5,000	.....	1	3
Bloomingdale	Van Buren	145	126	3	180	6,000	.....	1	3
Borculo	Ottawa	146	109	.....	200	750	125 00	1	1
Boyne	Charlevoix	375	327	7	180	6,000	2,000 00	1	6
Boyne Falls	Charlevoix	187	144	.....	174	1,600	2,000 00	2	1
Breckenridge	Gratiot	143	122	12	180	3,500	2,500 00	1	2
Breedsville	Van Buren	100	89	.....	180	800	.....	1	1
Breitung Tp	Dickinson	320	220	.....	180	8,600	4,914 44	2	3
Bridgh'pton Tp. 1	Sanilac	91	86	3	180	500	.....	1	.....
Bridgh'pton Tp. 2	Sanilac	112	87	1	200	600	.....	1	1
Bridgh'pton Tp. 5 fl	Sanilac	83	72	4	171	600	.....	1	.....
Buena Vista Tp. 1	Saginaw	162	102	4	200	2,550	.....	.....	2
Bridgeman	Berrien	172	116	.....	160	4,000	3,300 00	1	2
Bridgeport	Saginaw	131	98	1	175	2,000	....	1	1
Brighton	Livingston	236	220	33	200	16,000	.....	1	4
Briley Tp	Montmorency	114	74	3	120	1,350	.....	2	3
Britton	Lenawee	125	100	4	180	2,500	.....	1	1
Bronson	Branch	319	234	28	190	3,000	.....	2	4
Brooklyn	Jackson	164	169	39	200	5,000	.....	2	3
Brookside	Newaygo	91	68	.....	160	1,000	.....	1	1
Brown City	Sanilac	217	157	15	200	8,000	7,300 00	1	3
Buchanan	Berrien	415	382	42	190	25,000	.....	2	11
Buena Vista Tp. 4	Saginaw	95	54	4	176	1,500	500 00	.....	1
Buena Vista Tp. 5	Saginaw	119	94	.....	200	1,000	.....	.....	1
Buena Vista Tp. 6	Saginaw	570	226	1	200	5,500	1,050 00	1	2
Burlington	Calhoun	126	121	15	175	1,300	.....	1	2
Burnip's Corners	Allegan	92	84	14	180	2,000	.....	1	1
Burnside	Lapeer	101	72	7	180	1,000	.....	1	1
Burr Oak	St. Joseph	199	120	23	193	25,000	700 00	2	6
Buttersville	Mason	202	179	72	180	5,000	.....	1	4
Byron	Shiawassee	125	115	25	192	7,000	4,000 00	1	2
Byron Center	Kent	103	87	4	180	2,000	.....	1	1
Cadillac	Wexford	1,817	1,597	.....	180	65,000	8,000 00	1	33
Cady	Macomb	141	76	8	180	1,200	.....	.....	1
Caledonia	Kent	159	159	31	200	6,500	.....	2	2
Calumet	Houghton	7,591	4,857	19	200	25,000	.....	6	92

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
10	123	$850 00	$4,580 00	$85 00	$37 24	$5,430 00	$14,808 81	$183 50
9	63	675 00	2,065 25	75 00	32 78	2,740 25	3,810 25	84 44
10	20	650 00	526 25	65 00	26 31	1,176 25	1,589 10	103 50
19	45	1,140 00	1,432 50	60 00	31 83	2,572 50	3,681 59	208 25
8	18	360 00	585 00	45 00	32 50	945 00	1,257 99	3 00
18	270	1,960 02	10,714 95	108 89	39 68	12,674 97	17,985 41	403 20
18	27	710 00	912 66	39 44	33 80	1,622 66	2,143 08	56 30
9	9	378 00	243 00	42 00	27 00	621 00	770 87	.....
.....	18	.....	742 50	.....	41 25	742 50	847 36	59 50
.....	17	.....	444 00	.....	26 12	444 00	560 22	.....
9	36	800 00	1,260 00	88 88	35 00	2,060 00	2,561 45	153 20
10	171	1,200 00	7,436 75	126 32	43 49	8,636 75	16,987 96	.....
8	25	275 00	730 00	34 37	29 20	1,005 00	1,254 60	.....
10	230	1,200 00	8,620 00	120 00	37 48	9,820 00	14,654 97	166 00
8	6	315 00	192 50	39 38	35 00	507 50	556 90	.....
10	70	1,000 00	2,630 00	100 00	37 57	3,630 00	5,183 55	927 08
7	7	280 00	189 00	40 00	27 00	454 00	532 02	.....
10	30	625 00	750 00	62 50	25 00	1,375 00	1,804 83	59 00
10	30	700 00	950 00	70 00	31 67	1,650 00	2,173 65	203 45
9	27	450 00	756 00	50 00	28 00	1,206 00	1,524 52	37 25
10	5	340 00	85 00	34 00	17 00	425 00	911 20	.....
9	49	540 00	1,587 00	60 00	32 55	2,127 00	2,990 37	36 50
18	9	720 00	360 00	40 00	40 00	1,080 00	1,244 96	.....
9	18	450 00	540 00	50 00	30 00	990 00	1,325 64	17 29
9	9	360 00	252 00	40 00	28 00	612 00	713 72	.....
18	26	1,170 00	1,060 00	65 00	40 80	2,230 00	4,360 42	.....
9	.....	234 00	.....	26 00	.....	234 00	286 34	.....
10	4	383 35	108 00	38 33	27 00	491 35	589 67	.....
9	.....	337 50	.....	37 50	.....	337 50	463 53	.....
.....	20	.....	550 00	.....	27 50	550 00	688 68	.....
8	8	300 00	212 50	37 50	27 42	512 50	3,331 47	.....
9	9	360 00	270 00	40 00	30 00	630 00	777 03	4 50
10	40	850 00	1,250 00	85 00	31 25	2,100 00	2,902 76	318 05
12	18	360 00	569 63	30 00	31 65	929 63	2,499 17	.....
9	9	405 00	270 00	45 00	30 00	675 00	807 42	19 50
19	38	950 00	1,235 00	50 00	32 50	2,185 00	2,968 64	232 78
20	30	1,125 00	1,000 00	56 25	33 34	2,125 00	2,673 02	334 32
8	8	288 00	150 00	36 00	18 75	438 00	587 95	.....
9	30	450 00	830 00	50 00	27 67	1,280 00	6,496 76	59 79
19	95	1,522 50	3,537 72	80 13	37 14	5,060 22	7,879 90	261 25
.....	9	.....	270 00	.....	30 00	270 00	1,406 39	12 00
.....	10	.....	400 00	.....	40 00	400 00	701 95	.....
10	20	450 00	600 00	45 00	30 00	1,050 00	1,598 14	.....
9	18	360 00	450 00	40 00	25 00	810 00	992 61	40 07
9	9	427 50	247 50	47 50	27 50	675 00	952 56	99 80
9	9	378 00	180 00	42 00	20 00	558 00	677 65	37 00
20	50	950 00	1,585 00	47 50	31 70	2,535 00	3,223 98	395 21
9	36	315 00	900 00	35 00	25 00	1,215 00	1,434 83	.....
10	20	575 00	625 00	57 50	31 25	1,200 00	7,471 14	146 85
9	9	432 00	261 00	48 00	29 00	693 00	802 25	14 00
9	297	1,554 33	13,634 70	173 15	45 91	15,193 03	27,473 39	.....
.....	9	.....	243 00	.....	27 00	243 00	275 74	.....
20	20	820 00	600 00	41 00	30 00	1,420 00	1,979 81	218 20
60	920	7,400 00	50,549 68	123 33	54 95	57,949 68	94,130 81	327 89

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Calumet Tp. 2.....	Houghton....	831	706	.....	200	$10,400	.....	2	9
Cambria	Hillsdale	92	74	7	180	3,000	.....	2	1
Cannonsburg	Kent	115	105	14	177	1,000	.....	1	1
Capac	St. Clair.....	219	178	33	196	7,500	$375 00	1	6
Carleton.....	Monroe.....	146	110	10	200	1,000	.....	1	2
Caro.....	Tuscola.....	571	456	44	200	30,000	.....	1	11
Carrollton Tp. 1....	Saginaw.....	406	272	3	193	10,000	.....	1	6
Carrollton Tp. 2...	Saginaw.....	272	178	.....	200	2,400	.....	1	1
Carson City	Montcalm....	319	288	85	185	15,000	10,000 00	1	7
Carsonville.....	Sanilac	202	169	10	200	2,200	.....	1	3
Caseville.....	Huron.....	292	185	1	200	4,000	.....	1	2
Casnovia.....	Muskegon....	84	72	21	175	3,000	.....	1	2
Cass City.....	Tuscola.....	440	406	27	197	15,000	1,166 66	1	6
Cassopolis	Cass	391	340	32	190	18,000	.....	1	9
Cedar River.....	Menominee ..	90	80	11	180	1,600	.....	.....	2
Cedar Springs.....	Kent	297	261	22	190	20,000	.....	1	6
Central Lake.....	Antrim.....	368	270	4	180	7,000	4,000 00	1	9
Central Mine.....	Keweenaw....	34	19	.....	180	7,000	.....	1	.....
Centerville.....	St. Joseph....	170	123	28	180	15,000	225 00	2	4
Ceresco.....	Calhoun.....	77	61	3	180	1,200	.....	1	1
Charlevoix.....	Charlevoix...	702	602	17	174	25,000	18,000 00	1	11
Charlotte.....	Eaton	904	853	58	195	40,000	.....	2	23
Chase.....	Lake	141	88	4	160	1,500	.....	1	1
Chassell.....	Houghton....	198	169	.....	200	4,000	400 00	1	2
Cheboygan.....	Cheboygan...	2,301	1,531	16	200	50,000	40,000 00	3	21
Chelsea..	Washtenaw ..	437	384	41	200	15,000	.....	1	12
Chesaning.....	Saginaw.....	338	315	27	200	10,000	.....	1	7
Chickaming Tp. 3.	Berrien.....	123	81	.....	160	1,300	875 00	1	1
China Tp. 4.....	St. Clair.....	103	99	2	182	1,200	100 00	1	1
Chocolay Tp.....	Marquette ...	247	165	2	140	4,000	.....	.....	6
Clare.....	Clare.....	569	437	7	200	2,000	7,000 00	2	7
Clarion.....	Charlevoix...	80	49	3	180	1,800	1,000 00	1	1
Clarkston	Oakland.....	153	114	22	200	4,000	.....	2	2
Clarksville	Ionia	112	88	1	175	4,000	.....	1	1
Clayton.....	Lenawee.....	111	86	25	180	3,000	.....	1	5
Clifford.....	Lapeer	106	110	15	180	3,000	2,400 00	2	1
Climax	Kalamazoo...	126	120	14	180	4,000	.....	2	2
Clinton.....	Lenawee.....	277	243	16	190	5,000	.....	1	5
Clio.....	Genesee.....	173	166	72	196	8,000	2,500 00	1	4
Coldwater.....	Branch.....	1,497	1,017	39	200	95,000	6,000 00	5	21
Coleman	Midland.....	443	422	.....	200	12,000	.....	2	5
Coloma.....	Berrien.....	248	232	21	180	5,000	1,500 00	1	5
Colon.....	St. Joseph....	265	173	14	168	2,000	.....	2	3
Columbiaville.....	Lapeer.....	135	125	14	194	16,000	.....	1	4
Columbus Tp.....	Luce	19	18	.....	180	2,000	347 00	.....	3
Commerce	Oakland.....	67	50	3	180	600	.....	1	1
Comstock	Kalamazoo...	95	84	6	176	3,000	500 00	1	1
Concord.....	Jackson	160	118	27	190	7,000	.....	2	3
Conklin	Ottawa.....	95	70	1	180	1,000	.....	1	1
Constantine	St. Joseph....	277	226	35	190	25,000	168 72	1	8
Coopersville	Ottawa.....	221	175	12	190	5,000	.....	1	6
Copemish	Manistee.....	142	131	2	180	1,800	100 00	2	1
Coral.....	Montcalm....	157	128	7	180	3,000	.....	1	1
Corunna.....	Shiawassee...	416	273	36	200	28,000	1,010 50	1	9
Covert.....	Van Buren...	167	120	6	180	2,200	.....	1	2
Covington Tp.....	Baraga	62	34	.....	180	1,200	.....	1	1
Croswell.....	Sanilac.....	310	293	8	200	6,000	4,000 00	1	5
Crystal	Montcalm....	107	97	1	180	4,000	.....	1	1

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
20	80	$1,600 00	$4,300 00	$80 00	$53 75	$5,900 00	$15,729 57	.....
17	9	656 25	218 75	38 04	25 00	875 00	981 69	$43 75
9	9	450 00	252 00	50 00	28 00	702 00	811 44	63 73
10	40	600 00	1,003 75	60 00	24 97	1,603 75	2,724 15	351 89
10	20	550 00	575 00	55 00	28 75	1,125 00	1,399 00	100 00
10	110	1,000 00	3,850 00	100 00	35 00	4,850 00	6,777 55	340 80
10	50	650 00	1,000 00	65 00	20 00	1,650 00	2,453 47	8 00
10	10	500 00	300 00	50 00	30 00	800 00	1,143 97	.....
10	60	800 00	2,117 50	84 21	35 29	2,917 50	4,780 65	230 44
10	20	500 00	475 00	50 00	23 75	975 00	1,228 70	.....
10	20	700 00	600 00	70 00	30 00	1,300 00	1,923 22	.....
9	18	540 00	540 00	60 00	30 00	1,080 00	1,310 46	147 25
10	60	750 00	2,010 00	75 00	33 50	2,760 00	4,356 75	283 09
9	76	900 00	2,918 45	94 74	38 40	3,818 45	5,173 45	309 03
.....	18	.....	675 00	.....	37 50	675 00	988 76	.....
10	57	800 00	1,980 75	84 21	34 75	2,780 75	3,476 52	338 02
9	36	495 00	1,072 50	55 00	29 80	1,567 50	4,713 40	36 49
9	.....	630 00	.....	70 00	.....	630 00	859 85	.....
18	36	1,160 00	1,282 50	64 44	35 62	2,442 50	3,299 61	168 50
9	8	315 00	155 00	35 00	20 00	470 00	542 02	13 75
9	99	800 00	3,895 00	88 88	38 98	4,695 00	8,245 41	146 97
20	225	2,000 00	9,926 50	100 00	44 12	11,926 50	15,959 20	703 82
8	8	280 00	240 00	35 00	30 00	520 00	729 55	7 75
10	20	750 00	800 00	75 00	40 00	1,550 00	2,085 89	.....
30	210	2,100 00	8,091 25	70 00	38 34	10,191 25	23,841 35	168 12
10	120	1,000 00	3,960 00	100 00	33 00	4,960 00	6,848 69	498 50
10	70	790 00	2,322 50	79 00	33 18	3,112 50	3,984 59	196 25
8	8	280 00	224 00	35 00	28 00	504 00	1,480 66	.....
9	9	360 00	216 00	40 00	24 00	576 00	752 39	20 00
.....	42	.....	1,470 00	.....	25 00	1,470 00	2,824 87	18 00
20	70	1,100 00	2,200 00	55 00	31 43	3,300 00	4,751 63	50 75
9	9	270 00	225 00	30 00	25 00	495 00	745 39	4 75
20	20	850 00	550 00	42 50	27 50	1,400 00	1,896 31	165 07
9	9	405 00	275 00	45 00	30 55	680 00	849 31	2 40
9	18	577 74	450 00	64 19	25 00	1,027 74	1,296 01	119 40
9	9	435 00	216 00	48 33	24 00	651 00	973 54	57 75
18	18	675 00	495 00	37 50	27 50	1,170 00	1,653 37	89 70
10	47	800 00	1,539 00	84 21	32 40	2,339 00	2,918 74	181 21
10	40	800 00	1,270 00	80 00	31 75	2,070 00	5,004 86	484 51
50	210	3,540 00	8,142 00	70 80	38 77	11,682 00	17,210 48	517 10
20	50	950 00	1,550 00	47 50	31 00	2,500 00	3,594 17	.....
9	35	495 00	985 00	55 00	28 14	1,480 00	2,193 77	191 12
18	27	828 00	736 00	46 00	27 26	1,564 00	2,511 44	108 15
10	30	500 00	840 00	50 00	28 00	1,340 00	1,973 08	101 90
.....	18	.....	590 00	.....	32 78	590 00	860 31	.....
9	5	278 25	125 00	30 92	25 00	403 25	477 27	16 50
9	9	382 50	225 00	42 50	25 00	607 50	835 84	11 50
19	29	1,082 50	997 50	56 97	35 00	2,080 00	2,704 24	249 04
9	9	360 00	225 00	40 00	25 00	585 00	722 18	.....
10	76	1,050 00	2,675 00	110 53	35 20	3,725 00	5,221 91	427 82
10	38	570 00	1,140 00	60 00	30 00	1,710 00	2,057 64	111 73
18	9	630 00	225 00	35 00	25 00	855 00	1,007 83	9 60
9	9	405 00	270 00	45 00	30 00	675 00	876 39	23 64
10	90	1,000 00	3,350 00	100 00	37 22	4,350 00	7,215 71	281 50
9	18	477 00	517 50	53 00	28 75	994 50	1,189 24	7 20
9	9	360 00	340 00	40 00	40 00	700 00	1,637 84	.....
10	50	700 00	1,540 00	70 00	30 80	2,240 00	3,076 99	22 50
8	9	320 00	270 00	40 00	30 00	590 00	651 17	2 00

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Crystal Falls	Iron	981	869	.....	200	$24,000	$18,025 54	1	15
Crystal Tp. 7 fl	Montcalm	106	80	.....	180	1,000	250 00	.....	3
Custer	Mason	147	115	.....	175	3,000	735 00	3	2
Dansville	Ingham	110	93	20	196	4,000	.....	1	3
Davison	Genesee	243	206	19	198	10,000	3,000 00	2	4
Dearborn	Wayne	332	134	1	178	20,000	3,900 00	1	4
Decatur	Van Buren	392	358	36	186	15,000	175 00	1	7
Deckerville	Sanilac	276	188	1	200	4,000	.....	1	2
Deerfield	Lenawee	212	171	27	180	8,000	.....	1	4
Delton	Barry	57	37	.....	180	1,700	.....	1	.....
Detroit	Wayne	81,077	49,550	71	200	2,956,040	.....	62	836
DeWitt	Clinton	101	94	8	180	4,500	.....	1	2
Dexter	Washtenaw	262	262	30	200	17,000	9,000 00	1	7
Dimondale	Eaton	98	78	22	180	2,000	.....	1	2
Dollar Bay	Houghton	401	257	.....	200	1,500	.....	2	5
Dorr	Allegan	125	96	.....	177	800	.....	1	1
Douglas	Allegan	184	153	1	180	3,000	.....	1	2
Dowagiac	Cass	1,159	978	68	194	35,000	8,000 00	3	22
Drenthe	Ottawa	92	78	1	180	2,500	.....	1	1
Dryden	Lapeer	129	142	20	200	1,500	2 27	1	2
Dundee	Monroe	347	310	19	200	20,000	.....	1	10
Durand	Shiawassee	526	478	18	200	15,000	8,500 00	3	11
East Jordan	Charlevoix	387	337	14	180	10,000	5,800 00	2	8
East Lake	Manistee	791	517	3	200	5,000	.....	1	5
East Tawas	Iosco	679	461	10	180	5,000	.....	2	8
Eaton Rapids	Eaton	474	554	72	195	17,000	.....	2	12
Eau Claire	Berrien	121	94	5	180	3,000	.....	2	1
Ecorse Tp. 1	Wayne	294	221	.....	180	10,000	3,540 00	1	3
Ecorse Tp. 3	Wayne	317	222	.....	189	8,000	.....	1	3
Ecorse Tp. 4	Wayne	634	450	.....	200	19,000	.....	1	9
Edenville	Midland	154	77	20	177	1,500	800 00	1	1
Edmore	Montcalm	320	238	10	186	6,500	175 00	2	3
Edwardsburg	Cass	127	106	31	180	3,000	.....	2	2
Elk Rapids	Antrim	601	444	11	180	21,500	4,000 00	1	12
Elkton	Huron	305	232	11	193	1,800	200 00	1	3
Elk Tp. 4 fl	Sanilac	109	82	.....	195	1,000	.....	.....	2
Elk Tp. 5	Sanilac	108	89	.....	200	600	.....	1	.....
Ellsworth	Antrim	116	97	16	160	1,500	400 00	1	1
Elm Hall	Gratiot	117	95	3	180	2,300	.....	1	1
Elmira	Otsego	150	120	1	180	1,500	.....	2	2
Elsie	Clinton	228	201	38	180	3,500	.....	1	4
Ely Tp	Marquette	126	73	.....	175	2,500	.....	1	3
Empire	Leelanau	205	156	.....	180	5,000	4,400 00	1	2
Erie	Monroe	191	158	.....	180	4,000	.....	1	2
Escanaba	Delta	2,980	1,597	.....	200	90,000	41,500 00	3	27
Essexville	Bay	614	173	5	200	7,000	114 20	1	3
Estey	Gladwin	134	99	.....	140	1,200	600 00	.....	2
Eureka	Clinton	66	47	1	160	1,500	.....	1	1
Evart	Osceola	459	467	17	200	12,000	1,900 00	3	10
Farmington	Oakland	155	106	16	198	5,000	.....	1	2
Farwell	Clare	276	228	16	180	4,500	.....	1	3
Fennville	Allegan	246	202	43	180	4,500	.....	1	3
Fenton	Genesee	614	519	28	200	50,600	.....	3	11
Ferrysburg	Ottawa	164	115	.....	180	1,600	.....	1	1
Fife Lake	G'd Traverse	172	138	.....	180	4,000	.....	1	3
Filer City	Manistee	190	141	.....	200	3,000	1,100 00	1	2
Fillmore Tp. 1	Allegan	144	113	3	180	2,000	.....	1	1
Fillmore Tp. 2	Allegan	173	134	6	180	2,600	.....	.....	2

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
10	150	$1,300 00	$8,156 39	$130 00	$54 38	$9,456 39	$18,579 66	.....
.....	18	.....	406 00	.....	22 56	406 00	487 40	.....
9	16	382 50	480 00	42 50	30 00	862 50	1,654 26	.....
10	30	600 00	840 00	60 00	28 00	1,440 00	2,030 73	$138 40
10	40	516 00	1,050 00	51 60	26 25	1,566 00	2,248 31	118 58
9	36	525 00	1,080 00	60 00	30 00	1,605 00	2,901 04	4 50
9	65	900 00	2,301 00	96 77	35 40	3,201 00	4,358 12	310 67
9	20	450 00	550 00	50 00	27 50	1,000 00	1,552 01	8 15
9	36	600 00	855 00	66 67	23 75	1,455 00	2,060 39	151 50
9	.....	360 00	.....	40 00	.....	360 00	415 25	.....
620	8,360	72,340 80	541,973 58	116 68	64 83	614,314 48	1,127,456 39	1,575 57
9	18	450 00	522 00	50 00	29 00	972 00	1,284 13	44 50
10	70	900 00	1,980 00	90 00	28 00	2,880 00	4,224 13	242 40
9	18	450 00	585 00	50 00	32 50	1,035 00	1,151 94	152 75
20	50	1,500 00	2,400 00	75 00	48 00	3,900 00	5,100 09	.....
9	9	360 00	225 00	40 00	25 00	585 00	717 87	.....
9	18	500 00	576 00	55 55	32 00	1,076 00	1,475 26	8 30
30	220	2,650 00	8,265 00	88 33	37 57	10,915 00	16,971 30	753 20
9	9	320 00	180 00	35 56	20 00	500 00	623 67	.....
10	20	600 00	500 00	60 00	25 00	1,100 00	1,464 11	172 98
10	80	850 00	2,300 00	85 00	28 75	3,150 00	4,035 78	120 50
30	103	1,510 00	2,462 50	50 33	24 02	3,972 50	8,180 85	174 75
18	54	960 00	1,710 00	54 44	31 67	2,690 00	4,002 68	36 00
10	50	675 00	1,730 00	67 50	34 60	2,405 00	3,811 06	13 00
18	72	1,115 00	2,515 00	61 94	34 93	3,630 00	5,030 92	.....
19	115	1,700 00	4,007 50	87 18	34 92	5,707 50	7,390 10	915 75
9	9	450 00	315 00	50 00	35 00	765 00	1,389 58	6 50
9	27	475 00	812 50	52 78	30 09	1,287 50	3,126 30	.....
10	30	550 00	900 00	55 00	30 00	1,450 00	1,999 75	.....
10	80	650 00	2,909 00	65 00	36 25	3,550 00	6,056 32	.....
9	9	315 00	270 00	35 00	30 00	585 00	939 69	.....
19	29	985 00	885 00	51 84	31 40	1,870 00	2,639 53	.....
18	18	810 00	585 00	45 00	32 50	1,395 00	1,684 22	176 85
9	98	1,200 00	3,817 38	133 33	37 20	5,017 38	8,419 47	56 02
10	30	400 00	800 00	40 00	26 66	1,200 00	2,006 39	.....
.....	14	.....	370 00	.....	26 43	370 00	449 31	.....
10	.....	400 00	.....	40 00	.....	400 00	501 37	.....
8	8	320 00	240 00	40 00	30 00	560 00	703 52	.....
9	9	405 00	225 00	45 00	25 00	630 00	734 36	19 92
9	18	472 50	621 00	52 50	34 50	1,093 50	1,209 89	3 00
9	36	540 00	945 00	60 00	26 25	1,485 00	1,910 21	244 80
10	25	360 00	910 00	36 00	36 40	1,270 00	1,900 61	.....
9	18	405 00	540 00	45 00	30 00	945 00	3,968 36	.....
9	18	360 00	450 00	40 00	25 00	810 00	1,014 18	.....
25	270	2,850 00	12,770 00	114 00	47 30	15,620 00	58,620 29	.....
10	30	700 00	1,200 00	70 00	40 00	1,900 00	3,032 27	.....
.....	14	.....	390 00	.....	27 86	390 00	714 87	.....
8	8	280 00	200 00	35 00	25 00	480 00	634 70	2 25
26	84	1,470 00	3,088 50	56 54	36 77	4,558 50	5,725 52	134 75
10	20	650 00	435 00	65 00	21 75	1,085 00	1,351 59	180 85
9	27	500 00	810 00	55 56	30 00	1,309 95	1,686 54	47 63
9	27	750 00	810 00	83 33	30 00	1,560 00	2,046 17	195 00
30	110	2,150 00	3,950 00	71 67	35 91	6,100 00	11,729 61	224 00
9	9	405 00	252 00	45 00	28 00	657 00	895 38	....
9	18	500 00	600 00	55 56	33 33	1,100 00	1,400 62	.....
10	20	500 00	700 00	50 00	35 00	1,200 00	1,748 12	3 66
9	9	342 00	162 00	38 00	18 00	504 00	604 06	.....
.....	18	.....	495 00	.....	27 50	495 00	681 48	.....

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Filmore Tp. 3	Allegan	94	61		140	$800	$122 60		2
Filmore Tp. 4	Allegan	120	101		180	1,150			3
Filmore Tp. 5 fl	Allegan	109	78	5	180	1,200		1	1
Flat Rock	Wayne	192	123	22	200	12,000	500 00	1	4
Flint	Genesee	3,117	2,384	99	190	175,000	12,000 00	7	53
Flushing	Genesee	202	155	25	200	9,000		1	5
Ford River	Delta	270	178		196	3,000			2
Forester	Sanilac	116	90		200	1,000		1	
Forest Grove	Ottawa	114	87		180	1,500		1	1
Forestville	Sanilac	135	90		160	1,200	21 76	1	1
Fostoria	Tuscola	124	100	5	200	3,600	159 52	1	2
Fowler	Clinton	132	64	5	200	1,500		1	1
Fowlerville	Livingston	292	194	24	200	10,000		1	6
Frankenmuth	Saginaw	376	161	15	200	250		2	1
Frankfort	Benzie	557	472	8	193	25,000	18,900 00	1	11
Franklin Tp. 1	Houghton	302	199	3	200	3,000		1	2
Franklin Tp. 2	Houghton	295	171		200	5,000		1	3
Franklin Tp. 3	Houghton	334	184		200	2,500			2
Franklin Tp. 4	Houghton	387	299		170	8,500	8,000 00	2	4
Franklin Tp. 5	Houghton	210	149		200	3,000		1	3
Freeland	Saginaw	124	121		200	1,500		1	1
Freeport	Barry	185	163	19	180	3,000	600 00	1	3
Fremont	Newaygo	400	368	6	200	7,000		1	7
Freesoil	Mason	146	123		180	1,500			2
Frontier	Hillsdale	107	87	31	180	3,500		2	1
Fruitport	Muskegon	130	100	2	200	1,800		1	1
Fulton	Kalamazoo	111	87	10	180	1,000		1	1
Gagetown	Tuscola	198	83	16	200	3,000	2,500 00	1	1
Gaines	Genesee	127	107	27	200	5,000		2	2
Galesburg	Kalamazoo	181	169	42	180	10,000		2	4
Galien	Berrien	178	152	17	177	4,000		1	3
Garden Tp	Delta	402	292		160	4,000		3	3
Gaylord	Otsego	426	319	17	200	10,000	6,000 00	2	5
Girard	Branch	71	56	7	180	3,000		1	1
Gladstone	Delta	826	679	5	200	22,000	15,000 00	1	13
Gladwin	Gladwin	279	236	27	160	8,000		2	3
Gobleville	Van Buren	180	188	10	185	4,000		1	3
Goodrich	Genesee	72	50	2	200	2,000		1	1
Gore Tp	Huron	70	26		151	700			1
Graafschap	Allegan	151	104	7	160	1,400	100 00		2
Grand Blanc	Genesee	112	97	9	196	2,500		1	1
Grand Haven	Ottawa	1,678	1,446	22	200	50,000	700 00	4	26
Grand Junction	Van Buren	102	77	4	176	3,000		1	1
Grand Ledge 9 fl	Eaton	286	260	38	200	10,000		1	6
Grand Ledge 11 fl	Eaton	261	204	7	200	8,000		2	4
Grand Marais	Alger	447	339		195	4,000	3,000 00	1	4
Grand Rapids	Kent	26,093	15,775	103	189	1,260,000	265,000 00	22	349
Grandville	Kent	202	174	21	200	10,000		1	3
Grant Tp	Keweenaw	40	35		170				2
Grant Tp. 6 fl	Oceana	83	64		180	1,500		1	1
Grass Lake	Jackson	184	159	35	200	8,000	450 00	1	5
Grattan	Kent	98	81	7	180	1,500		1	1
Grayling	Crawford	424	326	3	200	12,000		1	8
Greenland Tp	Ontonagon	312	230		197	4,500	5,500 00		6
Greenville	Montcalm	857	761	48	200	30,000		2	19
Grindstone City	Huron	248	202	3	200	2,000		1	5
Grosse Isle	Wayne	246	85		193	6,000		2	2
Grosse Pointe Tp. 1	Wayne	153	105		200	2,000		1	

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
.....	14	.....	$378 00	.....	$27 00	$378 00	$767 46	.....
.....	15	.....	423 80	.....	28 25	423 80	529 90	....
7	9	$210 00	180 00	$30 00	20 00	390 00	433 18	.....
10	40	690 34	1,150 00	69 03	28 75	1,840 34	2,769 91	$189 58
70	530	6,550 00	22,634 05	93 57	42 71	29,184 05	52,436 34	2,015 15
10	50	630 44	1,633 60	63 04	32 67	2,264 04	2,939 00	332 58
.....	20	.....	950 00	.....	47 50	950 00	1,306 47	.....
10	.....	375 00	.....	37 50	.....	375 00	463 90	.....
9	9	450 00	180 00	50 00	20 00	630 00	778 44	.....
8	6	320 00	168 00	40 00	28 00	488 00	635 54	.....
10	20	480 00	450 00	48 00	22 50	930 00	1,347 67	12 85
10	10	500 00	300 00	50 00	30 00	800 00	903 08	19 50
10	60	850 00	1,860 00	85 00	31 00	2,710 00	3,357 97	259 03
17	3	908 00	142 00	51 88	56 80	1,050 00	1,194 04	.....
10	100	900 00	3,595 00	90 00	35 95	4,495 00	7,071 18	59 25
10	20	800 00	938 75	80 00	46 93	1,738 75	2,161 38	....
10	30	850 00	1,150 00	85 00	38 33	2,000 00	2,694 69	.....
.....	20	.....	1,100 00	.....	55 00	1,100 00	1,875 04	.....
17	32	1,247 50	1,471 25	73 38	47 07	2,718 75	12,920 68	.....
10	30	800 00	1,300 00	80 00	43 33	2,100 00	3,301 85	.....
10	10	450 00	300 00	45 00	30 00	750 00	865 87	.....
9	27	405 00	713 75	45 00	26 43	1,118 75	1,432 10	99 45
10	70	700 00	2,200 00	70 00	31 43	2,900 00	4,091 40	70 90
.....	18	.....	585 00	.....	32 50	585 00	934 25	.....
18	9	675 00	225 00	37 50	25 00	900 00	1,189 64	102 05
10	10	475 00	300 00	47 50	30 00	775 00	898 02	.....
9	9	360 00	225 00	40 00	25 00	670 00	896 45	52 65
10	10	450 00	200 00	45 00	20 00	650 00	1,095 82	75 15
14	20	548 00	500 00	39 14	25 00	1,048 00	1,461 91	127 18
18	36	1,188 00	954 00	66 00	26 50	2,142 00	2,724 41	481 00
9	27	495 00	855 00	55 00	31 66	1,350 00	2,054 27	129 83
27	22	1,183 05	754 15	43 82	34 28	1,937 20	3,109 27	.....
20	50	1,180 00	1,750 00	59 00	35 00	2,930 00	4,198 44	55 33
9	9	360 00	225 00	40 00	25 00	585 00	763 59	38 00
10	130	900 00	6,044 00	90 00	46 49	6,944 00	10,575 86	....
16	24	710 00	770 00	44 38	32 08	1,480 00	1,692 94	125 67
10	28	550 00	855 00	57 89	30 54	1,405 00	1,781 65	60 50
10	10	500 00	265 00	50 00	26 50	765 00	880 13	8 00
.....	8	.....	240 00	.....	30 00	240 00	276 44	.....
.....	16	.....	448 00	.....	28 00	448 00	657 76	.....
10	10	400 00	300 00	40 00	30 00	700 00	847 60	16 50
40	260	3,020 00	9,070 00	75 50	34 88	12,090 00	21,825 12	185 81
9	9	360 00	270 00	40 00	30 00	630 00	821 36	19 77
10	60	900 00	2,175 00	90 00	36 25	3,075 00	3,978 09	365 65
10	40	500 00	1,400 00	50 00	35 00	1,900 00	2,848 43	45 12
10	48	810 00	1,850 00	81 00	38 54	2,660 00	3,947 04	....
220	3,490	21,597 00	189,013 22	98 17	54 10	210,610 22	300,999 89	1,041 90
10	29	700 00	928 05	70 00	32 00	1,628 05	2,179 34	127 25
.....	17	.....	595 00	.....	35 00	595 00	869 31	.....
9	9	306 00	207 00	34 00	23 00	513 00	691 35	.....
10	50	700 00	1,450 00	70 00	29 00	2,150 00	3,475 12	333 75
9	9	405 00	270 00	45 00	30 00	675 00	833 54	21 00
10	80	800 00	2,900 00	80 00	36 25	3,700 00	5,096 34	.....
.....	59	.....	2,505 00	.....	42 46	2,505 00	5,083 61	.....
18	182	1,600 00	7,000 00	88 89	38 46	8,600 00	11,013 48	761 50
10	20	625 00	643 20	62 50	31 76	1,268 20	1,518 57	.....
10	20	495 05	700 00	49 50	35 00	1,195 05	1,673 76	.....
10	.....	415 00	.....	41 50	.....	415 00	630 46	.....

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Grosse Pointe Tp. 2	Wayne.	200	139	.....	198	$4,000	.....	1	1
Hadley	Lapeer	114	106	31	190	2,900	.....	2	1
Halfway	Macomb	189	83	.....	195	2,000	.....	1	.....
Hamilton	Allegan	99	79	2	180	1,500	.....	1	1
Hamtramck Tp. 8	Wayne	526	286	20	196	18,000	$15,000 00	1	5
Hancock	Houghton	1,808	1,258	39	200	90,000	30.000 00	2	22
Hanover	Jackson	136	131	37	200	6,200	.....	1	3
Harbor Beach	Huron	421	328	7	181	20,000	16,000 00	2	6
Harbor Springs	Emmet	604	327	5	180	8,000	1,000 00	1	7
Harrietta	Wexford	133	114	6	180	2,000	.....	1	2
Harrison	Clare	197	170	9	180	3,900	.....	1	3
Harrisville	Alcona	191	175	.....	170	2,000	.....	1	3
Hart	Oceana	325	310	22	180	20,000	1,600 00	2	6
Hartford	Van Buren	347	313	24	176	3,500	.....	1	5
Hartland	Livingston	85	85	15	200	1,500	.....	1	1
Hastings	Barry	760	681	60	198	70,000	4,000 00	3	16
Hematite Tp.	Iron	133	68	.....	190	3,000	3,000 00	.....	2
Hemlock	Saginaw	155	98	2	180	2,000	800 00	1	1
Hersey	Osceola	129	126	8	195	3,500	.....	1	2
Hesperia	Newaygo	223	209	14	180	6,000	700 00	1	4
Highland Park	Wayne	165	149	10	200	12,500	6,000 00	1	3
Highland Station	Oakland	105	88	2	200	1,500	.....	1	1
Hillman Tp.	Montmore'cy	244	209	.....	160	6,000	.....	1	4
Hillsdale	Hillsdale	951	951	83	190	45,000	1,450 00	3	18
Holland	Ottawa	2,338	1,855	22	193	80,000	22,000 00	2	35
Holland Tp. 3	Ottawa	144	103	.....	200	1,500	.....	1	1
Holland Tp. 4	Ottawa	108	70	.....	200	1,500	.....	.....	1
Holland Tp. 6 fl	Ottawa	153	99	5	200	1,000	.....	2	.....
Holland Tp. 9	Ottawa	132	112	.....	200	2,000	150 00	.....	2
Holland Tp. 11 fl	Ottawa	87	68	3	180	1,000	344 19	1	.....
Holly	Oakland	427	389	52	200	15,000	.....	1	7
Hollywood	Berrien	130	93	4	160	2,200	.....	1	1
Holt	Ingham	129	88	10	180	1,800	.....	1	2
Holton	Muskegon	90	75	.....	180	2,000	.....	1	2
Homer	Calhoun	262	250	22	200	15,000	.....	1	9
Holmes Tp.	Menominee	155	95	.....	160	2,400	.....	1	3
Honor	Benzie	158	164	6	180	3,000	1,400 00	1	3
Hope	Midland	104	86	.....	180	1,800	300 00	.....	2
Hopkins Station	Allegan	125	115	8	180	1,500	.....	1	2
Horton	Jackson	97	104	9	186	4,000	.....	2	1
Houghton	Houghton	1,139	656	10	200	100,000	50,000 00	2	15
Howard City	Montcalm	436	366	28	190	4,800	.....	2	7
Howell	Livingston	597	514	56	200	35,000	.....	3	14
Hubbardston	Ionia	155	102	10	176	4,500	.....	1	3
Hudson	Lenawee	372	337	32	190	17,000	393 81	1	9
Hudson Tp. 5	Lenawee	236	122	55	175	650	.....	1	5
Hudsonville	Ottawa	106	101	3	180	2,000	.....	1	1
Humboldt	Marquette	65	42	.....	200	3,000	.....	.....	1
Ida	Monroe	113	90	1	179	1,500	.....	1	1
Imlay City	Lapeer	502	502	34	160	15,000	.....	1	8
Indian River	Cheboygan	87	73	1	180	2,000	597 40	1	1
Inverness Tp. 6	Cheboygan	160	142	14	180	1,400	200 00	1	3
Ionia	Ionia	1,432	1,277	134	200	65,000	.....	2	28
Iron Mountain	Dickinson	2,985	2,397	6	180	125,000	57,500 00	3	43
Iron River	Iron	440	393	3	170	5,000	1,700 00	1	8
Ironwood	Gogebic	3,111	2,217	.....	200	150,000	49,000 00	3	50
Ishpeming	Marquette	4,169	2,750	2	200	150,000	30,000 00	4	56
Ishpeming Tp.	Marquette	124	83	3	165	2,200	.....	2	2

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of schools.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
10	10	$400 00	$350 00	$40 00	$35 00	$750 00	$1,147 90	.....
19	10	855 00	260 75	45 00	27 45	1,115 75	1,339 92	$255 00
10	.....	400 00	.....	40 00	.....	400 00	686 94	.....
7	9	245 00	225 00	35 00	25 00	470 00	505 62	2 00
10	45	800 00	1,775 00	80 00	39 44	2,575 00	5,899 39	40 50
20	197	2,800 00	8,817 50	140 00	44 87	11,617 50	45,796 91	792 21
10	30	600 00	920 00	60 00	30 67	1,520 00	2,046 85	380 42
20	60	1,050 00	1,980 00	52 50	33 00	3,030 00	3,555 95	50 28
9	63	800 00	2,120 00	88 88	33 65	2,920 00	4,457 78	35 00
9	18	405 00	585 00	45 00	32 50	990 00	1,358 61	4 60
9	27	500 00	702 00	55 56	26 00	1,202 00	1,696 65	34 30
9	27	450 00	837 00	50 00	31 00	1,287 00	1,489 84	.....
18	54	1,210 00	1,710 00	67 22	31 67	2,920 00	3,917 03	111 91
9	45	800 00	1,776 00	88 89	39 47	2,576 00	3,335 00	206 04
10	10	400 00	250 00	40 00	25 00	650 00	976 88	75 00
30	160	1,940 05	5,187 50	64 67	32 42	7,127 55	16,082 19	681 06
.....	17	.....	815 00	.....	47 94	815 00	4,064 04	.....
9	9	360 00	225 00	40 00	25 00	585 00	697 66	6 50
10	20	600 00	600 00	60 00	30 00	1,200 00	1,442 24	16 00
9	36	450 00	1,107 00	50 00	30 75	1,557 00	2,236 03	53 85
10	30	1,000 00	1,462 50	100 00	48 75	2,462 50	3,957 42	76 62
10	10	400 00	310 00	40 00	31 00	710 00	833 11	11 75
9	32	450 00	960 00	50 00	30 00	1,410 00	1,863 30	.....
28	171	2,430 00	6,602 50	88 36	38 61	9,032 50	15,967 79	701 11
20	350	1,800 00	11,651 90	90 00	33 29	13,451 90	23,216 50	25 50
10	10	350 00	200 00	35 00	20 00	550 00	712 12	.....
.....	10	.....	300 00	.....	30 00	300 00	384 93	.....
20	.....	510 00	.....	25 50	.....	510 00	658 68	10 00
.....	20	.....	575 00	.....	28 75	575 00	763 19	.....
9	.....	225 00	.....	25 00	.....	225 00	838 32	.....
10	70	1,000 00	2,450 00	100 00	35 00	3,450 00	4,542 01	486 60
8	8	340 00	240 00	42 50	30 00	580 00	781 65	6 28
9	18	360 00	450 00	40 00	25 00	810 00	928 14	20 05
6	12	216 00	300 00	36 00	25 00	516 00	556 10	.....
10	80	750 00	2,395 00	75 00	29 94	3,145 00	4,275 77	238 00
9	22	288 00	736 00	32 00	32 00	1,024 00	1,744 90	.....
9	27	405 00	591 00	45 00	21 88	996 00	1,319 84	14 38
.....	18	.....	567 00	.....	31 50	567 00	677 64	.....
9	18	450 00	450 00	50 00	25 00	900 00	1,010 23	79 05
19	10	839 50	304 00	44 18	32 00	1,143 50	1,424 03	56 83
19	148	2,332 50	6,720 00	121 17	45 40	9,052 50	72,148 74	179 09
19	67	802 00	2,161 25	42 21	32 50	2,963 25	3,697 59	124 00
30	140	2,100 00	4,630 00	70 00	33 07	6,730 00	10,069 20	804 00
9	20	500 00	531 00	55 56	26 22	1,031 00	1,413 82	62 50
9	86	1,100 00	3,713 64	115 79	43 43	4,813 64	6,544 44	430 77
9	45	1,000 00	1,507 00	111 11	33 49	2,507 00	3,251 91	516 65
9	9	360 00	270 00	40 00	30 00	630 00	724 31	17 50
.....	10	.....	450 00	.....	45 00	450 00	1,234 08	.....
9	9	360 00	225 00	40 00	25 00	585 00	702 74	.....
10	70	900 00	2,200 00	90 00	31 43	3,100 00	3,910 97	303 82
9	9	360 00	270 00	40 00	30 00	630 00	957 38	.....
9	18	360 00	540 00	40 00	30 00	900 00	1,055 09	1 50
20	280	1,900 00	10,725 61	95 00	38 31	12,625 61	17,627 81	920 06
27	387	3,675 00	20,192 02	136 11	52 18	23,867 02	62,954 40	50 12
10	74	800 00	3,190 00	80 00	43 11	3,990 00	6,198 84	25 98
30	500	3,700 00	21,419 13	123 33	42 84	25,119 13	76,513 66	375 00
40	560	4,500 00	26,957 50	112 50	48 14	31,457 50	59,745 94	20 00
13	20	650 00	900 00	50 00	45 00	1,550 00	3,247 13	4 00

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed. Men.	Women.
Ithaca	Gratiot	617	504	51	200	$25,000	$8,800 00	1	13
Jackson	Jackson	5,772	4,282	43	190	250,000	38,000 00	9	80
Jamestown	Ottawa	138	111	.....	180	2,000	78 50	1	1
Jasper	Lenawee	95	87	7	180	2,000	.....	1	1
Jennings	Missaukee	285	203	.....	200	1,500	.....	2	4
Jonesville	Hillsdale	339	310	20	200	30,000	151 11	1	6
Kalamazoo	Kalamazoo	5,856	3,716	40	190	400,000	12,000 00	4	96
Kalamazoo Tp., 6 fl	Kalamazoo	109	71	.....	177	2,200	707 49	.....	2
Kalkaska	Kalkaska	386	330	12	176	9,000	1,500 00	2	8
Kawkawlin	Bay	146	108	.....	180	1,200	400 00	.....	1
Kendall	Van Buren	56	46	1	180	1,000	.....	1	1
Kent City	Kent	152	128	13	180	4,000	.....	1	3
Kenton	Houghton	100	85	.....	180	1,200	219 19	1	1
Kingsley	Gd Traverse	218	177	4	175	6,000	800 00	1	2
Kilmanagh	Huron	186	124	5	180	2,000	.....	1	1
Kingston	Tuscola	159	112	4	200	1,500	.....	1	1
Kochville Tp. 6	Saginaw	109	70	2	177	1,500	.....	1	1
Lacota	Van Buren	104	79	.....	174	2,500	.....	1	1
Laingsburg	Shiawassee	159	159	18	198	5,000	.....	2	2
Lake Ann	Benzie	93	100	.....	179	3,000	.....	1	1
Lake City	Missaukee	270	236	12	180	6,000	.....	1	7
Lake Linden	Houghton	2,125	1,360	4	192	33,000	.....	1	29
Lake Odessa	Ionia	372	353	33	186	8,000	4,500 00	2	6
Lakeview	Montcalm	390	400	26	190	2,300	.....	2	5
Lambertville	Monroe	93	63	2	180	1,500	.....	.....	2
Lamont	Ottawa	104	69	8	175	1,500	.....	1	1
L'Anse	Baraga	500	303	.....	198	7,500	.....	3	7
Lansing	Ingham	3,921	3,072	51	189	167,000	25,000 00	5	74
Lapeer	Lapeer	790	604	53	200	46,500	4,500 00	4	18
Laporte	Midland	135	96	5	180	1,000	.....	1	1
Lawrence	Van Buren	186	172	44	180	8,000	.....	1	4
Lawton	Van Buren	232	213	31	190	9,000	652 15	2	5
Leaton	Isabella	95	63	.....	180	1,400	300 00	1	.....
Leland	Leelanau	85	48	2	180	1,875	200 00	1	1
Lenox	Macomb	155	91	2	177	1,300	.....	1	1
Leonard	Oakland	122	90	11	200	3,000	1,590 00	1	2
Le Roy	Osceola	224	185	3	175	5,000	.....	1	3
Leslie	Ingham	307	228	35	195	10,000	.....	1	5
Lexington	Sanilac	200	145	7	200	10,000	.....	1	5
Linden	Genesee	142	131	16	198	5,000	.....	1	2
Lisbon	Ottawa	125	95	5	180	1,000	.....	1	2
Litchfield	Hillsdale	169	176	30	180	10,000	.....	1	4
Long Rapids	Alpena	476	349	.....	158	2,800	300 00	2	7
Lowell	Kent	664	491	23	200	18,000	3,000 00	2	12
Lucas	Missaukee	145	83	.....	180	1,100	.....	1	1
Ludington	Mason	2,551	1,762	26	190	100,000	16,000 00	3	40
Luther	Lake	325	222	7	200	4,500	.....	1	3
Lyons	Ionia	188	171	22	180	4,000	.....	1	6
McBain	Missaukee	295	211	.....	180	4,000	800 00	1	3
McBrides	Montcalm	156	129	12	190	2,000	.....	1	2
McMillan Tp	Luce	507	480	.....	200	8,000	.....	2	8
McMillan Tp	Ontonagon	241	188	.....	165	9,278	5,342 60	1	6
Mackinac Island	Mackinac	241	146	.....	155	5,000	390 95	1	3
Mackinaw City	Cheboygan	209	131	1	180	5,000	.....	1	3
Macon	Lenawee	63	54	8	180	1,500	.....	1	1
Mancelona	Antrim	538	501	6	180	10,000	.....	2	9
Manchester	Washtenaw	406	331	35	190	20,000	.....	1	8
Manistee	Manistee	4,213	3,225	47	200	132,000	33,400 00	8	76

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
10	110	$1,100 00	$3,772 25	$110 00	$34 29	$4,872 25	$6,631 16	$440 35
90	800	9,500 00	39,017 32	105 55	48 77	48,517 32	65,611 51	625 00
9	9	360 00	225 00	40 00	25 00	585 00	843 69	.....
9	9	370 92	240 00	41 21	26 67	610 92	724 98	17 94
10	19	460 00	600 00	46 00	31 58	1,060 00	1,440 97	.....
10	60	800 00	2,330 00	80 00	38 83	3,130 00	4,587 15	177 00
40	960	4,550 00	43,267 52	113 75	45 07	47,817 52	101,255 87	1,118 94
.....	18	.....	476 00	.....	26 44	476 00	638 01	.....
18	45	1,115 00	1,555 52	61 94	34 57	2,670 52	6,239 74	43 91
.....	9	.....	315 00	.....	35 00	315 00	444 74	.....
9	6	324 00	150 00	36 00	25 00	474 00	607 79	.....
9	18	450 00	525 00	50 00	29 17	975 00	1,215 57	55 15
9	9	495 00	495 00	55 00	55 00	990 00	1,062 87	.....
9	18	427 50	585 00	47 50	32 50	1,012 50	2,198 02	4 75
9	6	378 00	150 00	42 00	25 00	528 00	582 67	8 85
10	10	400 00	250 00	40 00	25 00	650 00	699 65	21 25
8	9	320 00	198 00	40 00	22 00	518 00	671 68	8 10
9	9	315 00	234 00	35 00	26 00	549 00	718 36	.....
20	20	1,000 00	600 00	50 00	30 00	1,600 00	2,053 79	169 50
9	9	450 00	315 00	50 00	35 00	765 00	1,096 89	.....
9	52	450 00	1,460 20	50 00	28 35	1,910 20	2,888 65	12 20
10	274	1,800 00	14,558 25	180 00	53 08	16,358 25	25,965 13	70 00
19	57	937 25	1,335 50	49 33	23 43	2,272 75	3,376 32	279 95
19	48	1,057 90	1,413 87	55 68	29 77	2,471 77	3,066 00	153 95
.....	18	.....	513 00	.....	28 50	513 00	610 84	5 00
9	9	405 00	270 00	45 00	30 00	675 00	1,422 08	11 25
30	69	2,300 00	3,155 00	76 66	45 73	5,455 00	7,793 47	.....
50	740	3,500 00	32,576 47	70 00	44 02	36,076 47	60,125 58	579 00
24	174	2,057 50	5,760 00	85 73	33 10	7,817 50	15,011 10	873 42
9	9	360 00	225 00	40 00	25 00	585 00	761 69	6 93
9	36	700 00	1,224 00	77 78	34 00	1,924 00	2,062 74	283 94
19	35	932 50	1,033 00	49 08	29 94	1,965 50	3,843 82	115 80
9	.....	297 00	.....	33 00	.....	297 00	462 87	.....
9	9	405 00	225 00	45 00	25 00	630 00	799 17	8 00
9	9	405 00	180 00	45 00	20 00	585 00	635 07	8 48
10	20	350 00	437 00	35 00	21 85	787 00	1,329 33	40 25
9	27	500 00	810 00	55 56	30 00	1,310 00	1,798 91	.....
10	50	800 00	1,850 00	80 00	37 00	2,650 00	3,358 61	345 24
10	40	650 00	1,184 00	65 00	29 60	1,834 00	2,360 81	50 05
10	20	550 00	600 00	55 00	30 00	1,150 00	1,478 59	114 13
9	18	450 00	405 00	50 00	22 50	855 00	942 88	22 50
9	36	550 00	1,224 00	61 11	34 00	1,774 00	2,242 53	225 00
12	59	322 00	1,666 00	26 00	28 00	1,988 00	2,520 53	.....
20	110	1,516 00	3,488 00	75 80	31 71	5,004 00	8,435 38	197 15
9	9	360 00	270 00	40 00	30 00	630 00	904 09	.....
29	380	2,483 59	15,093 25	87 14	39 72	17,576 84	23,355 76	379 93
10	30	700 00	1,000 00	70 00	33 34	1,700 00	2,209 91	2 00
9	36	630 00	975 00	70 00	27 08	1,605 00	1,908 61	106 50
9	27	450 00	810 00	50 00	30 00	1,260 00	1,792 34	.....
10	19	522 50	593 75	55 00	31 25	1,116 25	1,315 72	33 25
20	74	1,950 00	3,190 00	97 50	43 11	5,140 00	7,950 62	.....
9	81	630 00	2,325 00	70 00	45 59	2,955 00	3,027 97	.....
8	23	640 00	920 00	80 00	40 00	1,560 00	2,259 35	.....
9	27	540 00	855 00	60 00	31 67	1,395 00	1,775 30	.....
9	9	450 00	198 00	50 00	22 00	648 00	729 40	18 75
11	79	825 00	2,595 00	75 00	32 85	3,420 00	4,775 57	22 20
10	80	950 00	2,500 00	95 00	31 25	3,450 00	4,367 54	418 34
75	750	6,686 00	29,710 73	89 38	39 63	36,396 73	61,985 96	438 65

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Manistique	Schoolcraft	1,231	963	12	196	$40,000	$17,000 00	3	19
Mansfield Tp.	Iron	63	52	.....	195	1,300	1,000 00	.....	1
Manton	Wexford	340	296	14	180	10,000	.....	1	7
Maple Rapids	Clinton	196	152	9	200	3,000	.....	2	2
Maple Ridge Tp.	Delta	163	116	.....	150	2,300	.....	.....	6
Marcellus	Cass	262	236	29	170	18,000	.....	2	5
Marine City	St. Clair	1,298	636	17	200	30,000	4,000 00	2	11
Marion	Osceola	247	226	8	180	3,500	2,120 00	1	3
Marquette	Marquette	2,844	1,819	.....	200	125,000	30,000 00	5	35
Marquette Tp.	Marquette	57	26	5	140	1,500	.....	.....	1
Marlette	Sanilac	345	302	32	200	15,000	10,500 00	2	5
Marshall	Calhoun	1,060	782	41	189	100,000	.....	3	22
Martin	Allegan	124	83	40	175	3,500	.....	1	2
Marysville	St. Clair	128	98	1	180	2,075	.....	1	1
Mason	Ingham	415	262	72	198	20,000	400 00	1	10
Masonville Tp.	Delta	705	578	4	176	6,850	.....	2	10
Mattawan	Van Buren	100	77	.....	180	4,000	.....	.....	3
Maybee	Monroe	185	93	6	180	1,800	.....	2	.....
Mayville	Tuscola	290	229	21	185	10,000	6,790 35	2	4
Mecosta	Mecosta	165	183	.....	180	2,500	.....	1	2
Memphis	Macomb	198	145	16	160	5,000	.....	1	4
Mendon	St. Joseph	226	199	37	180	11,000	.....	2	4
Menominee	Menominee	4,353	3,008	7	190	156,000	55,000 00	5	54
Merrill	Saginaw	189	164	13	200	4,000	.....	1	2
Mesick	Wexford	132	115	4	180	2,500	600 00	1	3
Metamora	Lapeer	112	98	12	180	3,000	.....	1	2
Meyer Tp.	Menominee	436	265	6	170	6,150	3,500 00	1	5
Michigamme Tp.	Marquette	368	255	.....	165	10,000	1,000 00	1	5
Middleton	Gratiot	139	121	6	176	2,500	900 00	1	1
Middleville	Barry	245	221	25	200	10,000	54 50	2	5
Midland	Midland	714	705	10	197	38,500	.....	1	11
Milan	Washtenaw	332	320	31	180	18,000	15,000 00	1	7
Milford	Oakland	275	207	28	200	15,000	1,500 00	3	4
Millbrook Tp. 6 fl.	Mecosta	93	70	1	200	200	.....	1	1
Millburg	Berrien	103	89	9	160	2,500	.....	1	2
Mill Creek	Kent	134	116	1	200	1,500	.....	1	1
Millersburg	Presque Isle	190	146	.....	149	5,000	4,433 00	1	1
Millington	Tuscola	219	181	23	200	6,350	.....	1	3
Minden City	Sanilac	221	160	6	180	2,000	.....	1	1
Monguagon Tp. 3	Wayne	154	121	.....	191	1,200	.....	1	1
Monroe	Monroe	1,700	802	76	186	37,000	11,000 00	4	15
Montague	Muskegon	371	273	11	200	20,000	1,000 00	1	6
Montgomery	Hillsdale	91	77	6	180	1,500	.....	1	2
Morenci	Lenawee	266	237	15	180	9,000	.....	1	6
Morley	Mecosta	162	128	11	180	4,000	.....	1	2
Morrice	Shiawassee	145	110	40	200	5,000	.....	2	3
Mosherville	Hillsdale	49	36	4	180	1,600	.....	1	2
Moscow	Hillsdale	70	60	1	180	1,000	.....	1	1
Mt. Clemens	Macomb	2,134	1,195	39	200	65,000	2,000 00	2	27
Mt. Morris	Genesee	153	141	6	180	5,500	.....	1	2
Mt. Pleasant	Isabella	1,086	808	21	200	29,300	12,500 00	4	18
Muir	Ionia	167	148	15	180	5,700	.....	2	2
Mulliken	Eaton	106	94	5	180	3,500	3,000 00	2	2
Munising	Alger	681	552	.....	200	11,600	4,920 20	2	14
Muskegon	Muskegon	7,329	5,185	22	190	400,000	39,985 49	5	103
Muskegon Heights	Muskegon	276	256	7	200	12,000	8,000 00	1	6
Nadeau	Menominee	184	129	2	200	3,200	91 63	1	2
Napoleon	Jackson	112	86	7	190	5,000	.....	1	2

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers. for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
30	190	$2,400 00	$8,302 50	$80 00	$43 70	$10,702 50	$32,443 72	$13 05
.....	10	.....	500 00	.....	50 00	500 00	1,147 47	.....
9	57	630 00	1,845 00	70 00	32 37	2,475 00	3,989 92	102 55
20	20	950 00	560 00	47 50	29 00	1,530 00	1,961 98	94 42
.....	30	.....	900 00	.....	30 00	900 00	1,424 09	.....
18	45	1,015 00	1,665 00	56 39	37 00	2,680 00	3,888 78	263 30
20	110	1,400 00	3,860 00	70 00	35 09	5,260 00	8,415 82	76 25
9	27	500 00	840 00	55 56	31 11	1,340 00	1,910 29	26 20
50	350	4,600 00	18,874 25	92 00	53 93	23,474 25	36,143 01	.....
.....	7	.....	315 00	.....	45 00	315 00	516 82	.....
20	50	1,250 00	1,500 00	62 50	30 00	2,750 00	4,351 70	358 67
30	220	3,050 00	7,901 00	101 66	35 91	10,951 00	15,124 75	704 70
9	18	630 00	570 00	70 00	31 67	1,200 00	1,703 45	239 72
9	9	360 00	225 00	40 00	25 00	585 00	719 94	.....
10	100	1,000 00	3,650 00	100 00	36 50	4,650 00	6,322 87	583 40
19	90	1,360 00	3,465 00	71 58	38 50	4,825 00	6,787 40	.....
.....	18	.....	530 32	.....	29 46	530 32	667 32	.....
14	.....	485 00	.....	34 64	.....	485 00	607 81	10 00
20	40	975 00	825 00	48 75	20 62	1,800 00	2,949 07	146 22
9	18	400 00	495 00	44 44	27 50	895 00	1,221 82	.....
8	32	600 00	943 25	75 00	29 48	1,543 25	2,104 97	207 88
18	36	1,310 00	1,287 00	72 78	35 75	2,597 00	3,499 34	305 45
48	513	5,095 00	24,476 52	107 26	47 71	29,571 52	48,636 44	.....
10	20	500 00	560 00	50 00	28 00	1,060 00	1,279 71	40 00
6	20	222 00	561 00	37 00	29 05	803 00	1,094 62	.....
9	18	450 00	504 00	50 00	28 00	954 00	1,215 74	57 25
9	43	450 00	1,350 00	50 00	32 14	1,800 00	2,876 01	.....
10	50	800 00	2,074 00	80 00	41 48	2,874 00	4,596 81	.....
9	9	405 00	225 00	45 00	25 00	630 00	933 25	27 07
20	50	1,050 00	1,500 00	52 50	30 00	2,550 00	3,222 03	272 95
10	110	900 00	3,775 00	90 00	34 32	4,675 00	6,941 69	71 00
9	54	799 95	1,680 00	88 88	30 74	2,479 95	11,008 99	278 75
30	40	1,725 00	1,080 00	57 50	27 00	2,805 00	4,066 54	329 60
10	7	340 00	133 00	34 00	19 70	473 00	649 77	25
8	16	318 32	440 00	39 79	27 50	758 32	950 45	50 68
10	10	296 50	244 38	29 65	24 44	542 88	654 96	4 00
9	5	485 01	126 00	53 89	25 20	692 51	4,412 29	.....
10	30	600 00	875 00	60 00	29 17	1,475 00	2,152 72	117 40
9	9	447 50	270 00	49 72	30 00	717 50	886 06	.....
10	6	438 75	115 00	45 00	20 00	553 75	671 33	.....
40	150	2,840 00	5,220 00	71 00	34 80	8,060 00	15,023 95	841 00
10	60	1,000 00	1,968 80	100 00	33 15	2,968 80	4,999 60	48 65
9	9	325 00	225 00	36 11	25 00	550 00	624 76	39 50
9	54	765 00	1,584 00	85 00	29 33	2,349 00	3,107 76	106 62
9	18	450 00	504 00	50 00	28 00	954 00	1,385 04	11 05
20	21	870 00	564 30	43 50	26 87	1,434 30	1,816 58	236 50
9	9	290 00	158 00	32 22	18 59	448 00	505 46	18 29
9	9	300 00	225 00	33 34	25 00	525 00	623 61	.....
29	255	2,050 00	10,387 50	102 50	40 74	12,437 50	19,166 25	286 65
9	18	540 00	477 00	60 00	26 50	1,017 00	1,597 95	58 86
40	180	2,300 00	5,936 50	57 50	32 98	8,236 50	15,397 30	126 00
18	18	770 00	504 00	42 78	28 00	1,274 00	1,626 58	69 00
9	11	360 00	263 00	40 00	23 91	623 00	737 60	9 00
13	129	1,045 00	5,495 50	80 38	45 80	6,540 50	10,238 53	.....
38	978	5,874 97	39,069 74	154 60	39 95	44,944 71	101,852 91	108 00
10	40	700 00	1,201 25	70 00	30 03	1,901 25	3,589 55	56 10
10	20	500 00	693 00	50 00	34 65	1,193 00	1,472 85	.....
10	19	550 00	625 00	57 89	32 89	1,175 00	1,590 84	48 75

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Nashville	Barry	306	280	42	200	$12,000		3	7
Negaunee	Marquette	2,126	1,351		200	54,000	$47,428 40	3	27
Negaunee Tp	Marquette	16	9		200	1,000			1
Newaygo	Newaygo	502	327	13	200	5,000		1	6
New Baltimore	Macomb	277	128	6	200	20,000		1	2
New Boston	Wayne	126	94	1	180	1,000		1	1
New Buffalo	Berrien	202	199	9	180	4,000		1	3
New Haven	Macomb	169	168	5	180	1,200		1	2
New Holland	Ottawa	158	115		200	1,000		1	1
New Hudson	Oakland	61	49	12	180	2,000		1	1
New Lothrop	Shiawassee	97	80	13	196	2,500	1,000 00	1	1
New Troy	Berrien	148	146	7	175	4,000		3	1
Niles	Berrien	1,175	1,049	45	190	50,000	800 00	2	22
Noordeloos	Ottawa	97	63	2	200	1,200	900 00	1	1
North Adams	Hillsdale	124	85	32	180	10,000	500 00	1	3
North Branch	Lapeer	248	201	32	170	10,000	300 00	2	4
North Muskegon	Muskegon	182	122		180	10,000	1,606 92		2
Northport	Leelanau	285	222	6	178	3,000		2	2
North Star	Gratiot	136	110	6	176	2,000		1	1
Northville	Wayne	440	400	31	200	20,000		1	9
Norway	Dickinson	1,434	1,050	9	178	26,000	15,834 30	1	13
Norway Tp	Dickinson	461	336		180	8,050		1	8
Nottawa	St. Joseph	79	56	2	170	2,800		1	1
Nunica	Ottawa	118	92		174	2,500			3
Oak Grove	Livingston	84	72		180	1,200		1	1
Oak Hill	Manistee	478	392		200	3,500	200 00	1	3
Oakley	Saginaw	80	69	5	180	1,000		1	1
Ogden Center	Lenawee	81	57	4	160	3,500		1	1
Okemos	Ingham	118	112	10	180	3,000		1	4
Old Mission	G'd Traverse	97	82		159	3,000	825 00	1	1
Olivet	Eaton	256	211	45	190	9,000		2	5
Onaway	Presque Isle	417	205	2	200	7,000	7,000 00	1	2
Omer	Arenac	228	181		178	5,000	3,100 00	1	2
Onekama	Manistee	151	125	7	180	2,000		1	2
Onondaga	Ingham	100	76	6	176	500		1	1
Ontonagon Tp	Ontonagon	440	400		117	7,000	6,000 00		13
Opechee	Houghton	2,020	1,343		200	1,400		4	23
Orion	Oakland	248	161	8	200	10,000	1,000 00	1	3
Ortonville	Oakland	116	99	21	200	3,000		1	2
Oscoda	Iosco	500	310		180	1,500			7
Oshtemo	Kalamazoo	50	40	2	179	2,500		1	1
Osseo	Hillsdale	85	62		180	1,500		1	1
Ossineke Tp	Alpena	207	104	9	104	2,000			6
Otisville	Genesee	152	128	16	195	2,000		2	2
Otsego	Allegan	597	441	31	180	20,000	9,000 00	1	18
Otter Lake	Lapeer	88	72	15	180	800		1	1
Overisel	Allegan	123	96	7	180	2,000		1	1
Ovid	Clinton	381	337	33	200	15,000		2	7
Owosso	Shiawassee	2,358	2,026	30	190	125,000	35,500 00	7	37
Oxford	Oakland	302	237	15	200	8,000		1	7
Palms	Sanilac	92	73		200	1,000		1	
Palmyra	Lenawee	89	72	5	180	2,500		1	1
Palo	Ionia	91	84	25	199	4,000		2	2
Paris	Mecosta	85	63	4	180	2,000	100 00		2
Paris Tp	Kent	96	65		200	1,000		1	
Parma	Jackson	156	96	23	200	10,000		1	3
Paul	Kent	100	77	1	180	3,500		1	1
Paw Paw	Van Buren	367	285	50	196	40,940		2	7

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
30	70	$1,590 00	$2,089 50	$53 00	$29 85	$3,679 50	$4,746 90	$407 13
30	270	2,900 00	11,990 00	96 67	44 41	14,890 00	51,700 69	....
.....	10	.....	400 00	.....	40 00	400 00	539 20	.....
10	52	760 00	1,704 00	76 00	32 77	2,464 00	3,054 74	68 20
10	20	650 00	600 00	65 00	30 00	1,250 00	1,763 49	26 50
9	9	360 00	225 00	40 00	25 00	585 00	703 36	3 50
9	27	540 00	810 00	60 00	30 00	1,350 00	1,740 26	61 69
9	18	495 00	558 00	55 00	31 00	1,053 00	1,392 00	29 75
10	10	400 00	280 00	40 00	28 00	680 00	807 68	.....
9	9	405 00	225 00	45 00	25 00	630 00	739 31	30 97
10	10	450 00	300 00	45 00	30 00	750 00	874 96	91 20
16	9	640 00	247 50	40 00	27 50	887 50	1,298 72	16 59
9	209	2,400 00	8,283 75	126 32	34 85	10,560 60	15,470 26	550 10
10	3	400 00	88 75	40 00	29 58	488 75	827 61	.....
9	27	500 00	837 00	55 56	31 00	1,337 00	2,438 46	242 00
20	40	1,000 00	1,200 00	50 00	30 00	2,200 00	2,972 18	318 38
.....	18	.....	607 50	.....	33 75	607 50	1,003 50	.....
18	18	855 00	675 00	47 50	37 50	1,530 00	1,977 85	38 85
9	9	315 00	238 50	35 00	26 50	553 50	771 73	10 50
10	90	850 00	2,950 00	85 00	32 78	3,800 00	4,956 30	454 66
9	117	1,300 00	5,780 00	144 44	49 40	7,080 00	18,770 20	.....*
9	54	800 00	2,710 00	88 89	50 19	3,510 00	5,488 24	.....
9	7	360 00	196 00	40 00	28 00	556 00	756 14	.....
.....	18	.....	605 00	.....	33 61	605 00	914 72	....
9	9	315 00	225 00	35 00	25 00	540 00	575 00	25 00
10	30	500 00	1,000 00	50 00	33 34	1,500 00	1,958 30	.....
9	4	359 00	100 00	39 89	25 00	459 00	637 57	4 20
8	8	264 00	160 00	33 00	20 00	424 00	526 85	.....
9	18	405 00	450 00	45 00	25 00	855 00	1,339 34	52 06
8	8	400 00	200 00	50 00	25 00	600 00	894 15	.....
20	50	1,075 00	1,215 00	53 75	24 54	2,290 00	3,372 65	311 20
10	20	600 00	600 00	60 00	30 00	1,200 00	6,985 70	.....
9	18	450 00	585 00	50 00	32 50	1,035 00	4,417 65	.....
9	18	477 00	576 00	53 00	32 00	1,053 00	1,398 02	9 25
9	9	405 00	252 00	45 00	28 00	657 00	802 23	12 50
.....	98	.....	4,140 00	.....	42 24	4,140 00	11,548 60	.....
40	215	3,400 00	10,860 00	85 00	50 51	14,260 00	23,709 96	.....
10	30	491 25	830 00	49 13	27 67	1,321 25	2,212 98	65 80
10	20	675 00	500 00	67 50	25 00	1,175 00	1,381 90	155 25
.....	63	.....	2,035 00	.....	32 56	2,035 00	2,526 11	.....
9	9	227 60	161 10	28 77	17 90	388 70	656 94	17 00
9	9	405 00	243 00	45 00	27 00	648 00	742 56	.....
.....	26	.....	780 00	.....	30 00	780 00	915 98	7 50
10	20	450 00	500 00	45 00	25 00	950 00	1,098 09	119 35
9	116	983 33	4,271 42	109 26	36 82	5,254 75	7,434 91	376 39
9	9	360 00	234 00	40 00	26 00	594 00	660 89	28 25
9	9	382 50	225 00	42 50	25 00	607 50	747 49	18 00
20	70	1,400 00	2,540 00	70 00	36 29	3,940 00	5,508 22	438 82
66	362	5,065 00	14,436 52	76 17	41 07	19,501 52	29,794 25	.....
10	70	800 00	2,093 75	80 00	29 91	2,893 75	3,702 48	149 50
10	.....	400 00	.....	40 00	.....	400 00	461 51	.....
9	9	369 00	234 00	41 00	26 00	603 00	771 61	30 28
20	10	750 00	250 00	37 50	25 00	1,000 00	1,319 15	145 90
.....	18	.....	477 00	.....	26 50	477 00	657 80	.....
10	.....	400 00	.....	40 00	.....	400 00	559 86	.....
10	30	650 00	960 00	65 00	31 06	1,600 00	2,225 11	214 00
9	9	360 00	270 00	40 00	30 00	630 00	953 60	11 00
20	65	1,600 00	2,420 00	80 00	37 23	4,020 00	5,601 95	481 56

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Peck	Sanilac	146	105	.....	200	$800	.....	2	1
Pentland Tp	Luce	77	59	13	180	1,800	.....	.....	3
Pentwater	Oceana	303	343	11	172	10,000	$600 00	2	8
Perrinton	Gratiot	103	80	7	180	1,500	.....	1	1
Perry	Shiawassee	182	178	34	200	4,000	.....	1	3
Petersburg	Monroe	232	173	10	180	9,000	.....	1	4
Petoskey	Emmet	1,260	1,001	16	188	3,200	13,500 00	1	22
Pewamo	Ionia	149	126	3	180	1,200	.....	1	2
Pickford	Chippewa	144	108	12	200	500	.....	1	1
Pierson	Montcalm	124	108	2	177	1,000	.....	1	1
Pigeon	Huron	276	161	6	200	4,000	2,200 00	1	2
Pinckney	Livingston	132	103	19	200	8,000	.....	1	2
Pinconning	Bay	397	275	10	200	3,000	111 61	2	3
Pinnebog	Huron	141	102	7	200	2,000	.....	3	.....
Pittsford	Hillsdale	137	135	24	186	4,000	.....	1	3
Plainwell	Allegan	302	341	72	190	12,000	.....	1	9
Plymouth	Wayne	452	331	35	195	20,000	.....	1	8
Pontiac	Oakland	1,903	1,497	58	200	110,000	8,000 00	5	28
Portage Tp. 2	Houghton	244	113	4	192	10,000	.....	.....	5
Port Austin	Huron	236	200	7	200	3,000	.....	1	3
Port Hope	Huron	244	122	2	200	1,800	32 00	1	2
Port Huron	St. Clair	5,924	3,862	10	200	250,000	....	3	72
Port Huron Tp. 5	St. Clair	101	66	.....	180	1,000	.....	.....	1
Portland	Ionia	530	544	41	190	16,000	.....	2	13
Port Sanilac	Sanilac	142	126	7	180	2,000	.....	1	2
Potterville	Eaton	162	170	17	180	4,000	150 00	1	2
Prattville	Hillsdale	98	98	.....	180	1,000	.....	1	1
Prescott	Ogemaw	113	90	3	180	1,000	.....	1	1
Quincy	Branch	339	287	29	200	10,000	.....	3	6
Quincy Tp	Houghton	499	299	5	200	6,000	.....	1	6
Ravenna	Muskegon	163	148	6	180	3,500	.....	1	2
Reading	Hillsdale	263	188	35	190	8,500	.....	1	6
Reed City	Osceola	733	607	20	200	26,000	6,000 00	1	14
Reese	Tuscola	187	111	2	184	1,600	.....	1	1
Remus	Mecosta	122	99	3	180	3,500	1,550 00	1	1
Republic Tp	Marquette	852	654	.....	200	1,000	.....	2	10
Richland	Kalamazoo	120	88	15	190	4,000	.....	.....	4
Richmond	Macomb	212	197	30	180	8,000	.....	2	3
Richmond Tp	Marquette	181	135	.....	200	2,000	.....	2	1
Ridgeway	Lenawee	77	57	9	180	2,000	100 00	1	1
Riga	Lenawee	178	102	2	180	4,000	46 01	1	2
Rochester	Oakland	374	343	13	200	14,000	.....	1	5
Rockford	Kent	202	182	23	200	10,000 00	2,700 00	1	5
Rockland Tp	Ontonagon	331	263	.....	200	4,000	.....	1	5
Rock River	Alger	55	56	.....	140	3,500	315 00	1	2
Rockwood	Wayne	107	106	1	180	3,000	900 00	1	1
Rogers	Presque Isle	304	260	2	114	3,000	500 00	3	1
Romeo	Macomb	473	426	33	200	29,374	.....	3	7
Romulus	Wayne	132	95	6	176	3,500	1,250 00	1	1
Roscommon	Roscommon	252	142	4	180	3,500	3,000 00	1	2
Rose City	Ogemaw	182	149	12	175	4,000	2,500 00	1	2
Royal Oak	Oakland	220	196	12	200	3,000	....	1	3
Rust Tp	Montmor'ncy	143	104	4	108	2,250	332 78	1	4
Saginaw	Saginaw	8,366	5,069	59	193	426,145	.....	11	132
Saginaw, W. S	Saginaw	5,898	3,711	25	200	248,470	25,000 00	7	75
St. Charles	Saginaw	530	429	5	200	12,000	4,100 00	1	6
St. Clair	St. Clair	761	610	12	200	34,000	4,000 00	2	12
St. Clair Heights	Wayne	179	137	15	200	3,000	1,600 00	2	.....
St. Ignace	Mackinac	724	430	6	178	15,000	15,875 00	1	9

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
10	10	$369 88	$250 00	$36 99	$25 00	$619 88	$754 52	.....
.....	27	.....	835 00	.....	30 93	835 00	1,196 23	.....
9	72	880 00	2,475 00	97 78	34 37	3,355 00	4,336 79	$78 02
9	9	315 00	225 00	35 00	25 00	540 00	711 26	3 75
10	30	700 00	900 00	70 00	30 00	1,600 00	2,052 09	182 50
9	36	606 00	1,071 50	67 33	29 76	1,677 50	2,249 52	97 00
9	209	1,300 00	8,079 99	136 84	38 60	9,379 99	14,452 71	180 87
9	18	405 00	540 00	45 00	30 00	945 00	1,170 84	11 50
10	10	430 00	300 00	43 00	30 00	730 00	836 88	3 20
9	9	382 50	270 00	42 50	30 00	652 50	851 56	1 50
10	20	500 00	650 00	50 00	32 50	1,150 00	1,876 81	4 00
20	20	1,050 00	600 00	52 50	30 00	1,650 00	2,401 68	207 01
20	30	1,000 00	900 00	50 00	30 00	1,810 00	2,293 89	61 05
20	.....	818 00	.....	40 40	.....	818 00	915 99	23 63
10	19	475 00	560 00	50 00	29 47	1,035 00	1,389 05	189 59
9	86	1,200 00	2,540 50	126 32	33 22	4,040 50	5,329 32	728 92
10	80	900 00	2,825 00	90 00	35 31	3,725 00	5,702 65	373 25
50	230	4,075 00	11,236 52	81 50	40 13	15,311 52	25,320 20	1,000 00
.....	36	.....	2,017 50	.....	56 83	2,017 50	4,738 22	45 00
10	30	650 00	900 00	65 00	30 00	1,550 00	2,026 78	.....
10	20	500 00	600 00	50 00	30 00	1,070 00	1,309 63	8 50
30	720	3,600 00	28,819 10	120 00	40 03	32,419 10	45,931 36	82 85
.....	9	.....	225 00	.....	25 00	225 00	270 90	.....
19	105	1,500 00	3,300 00	78 95	31 58	4,800 00	6,452 14	471 54
9	18	450 00	468 00	50 00	26 00	918 00	1,014 15	9 00
9	18	518 00	540 00	57 55	30 00	1,058 00	1,434 09	83 80
9	9	315 00	225 00	35 00	25 00	540 00	745 96	.....
9	9	225 00	315 00	25 00	35 00	540 00	657 60	.....
20	53	1,197 50	1,845 00	59 87	34 81	3,042 50	4,431 11	281 00
10	60	1,150 00	2,551 25	115 00	42 52	3,701 25	5,617 94	.....
9	18	405 00	497 00	45 00	28 00	902 00	1,069 78	13 00
9	48	800 00	1,677 00	84 21	35 31	2,477 00	3,834 55	305 39
10	127	1,150 00	4,755 00	115 00	37 44	5,905 00	7,738 61	93 00
9	10	405 00	350 00	45 00	35 00	755 00	927 89	2 00
9	9	405 00	270 00	45 00	30 00	675 00	1,173 33	7 00
17	103	1,500 00	4,939 25	88 23	47 95	6,439 25	9,250 43	.....
.....	38	.....	1,402 50	.....	36 91	1,402 50	1,817 53	198 45
18	27	1,010 00	900 00	56 11	33 33	1,910 00	2,422 57	320 77
14	6	766 25	270 00	54 73	45 00	1,036 25	1,663 15	.....
9	9	405 00	270 00	45 00	30 00	675 00	805 75	33 60
6	11	270 00	319 00	45 00	29 00	589 00	704 70	6 00
10	50	900 00	1,500 00	90 00	30 00	2,400 00	2,961 40	66 41
10	50	810 00	1,550 00	81 00	31 00	2,360 00	3,242 29	275 95
10	46	900 00	1,810 00	90 00	39 35	2,610 00	6,884 51	.....
7	14	315 00	315 00	45 00	22 50	630 00	1,106 45	.....
9	9	315 00	225 00	35 00	25 00	540 00	761 50	3 60
21	4	874 50	120 00	41 64	30 00	994 50	1,254 71	.....
30	70	2,150 00	2,025 00	71 67	28 93	4,175 00	5,876 09	423 80
9	9	425 00	237 50	47 22	26 39	662 50	869 60	19 97
9	18	500 00	540 00	55 56	30 00	1,040 00	1,431 35	10 00
9	18	405 00	540 00	45 00	30 00	945 00	1,369 96	24 75
10	30	525 00	825 00	52 50	27 50	1,350 00	1,862 88	84 96
6	21	180 00	630 00	30 00	30 00	810 00	1,392 87	.....
110	1,320	13,716 00	57,685 64	124 70	43 70	71,402 24	97,332 84	939 43
70	750	6,625 00	31,123 24	94 64	41 50	37,748 24	52,678 70	194 17
10	46	700 00	1,365 00	70 00	30 00	2,065 00	7,166 98	22 00
20	120	1,350 00	4,250 00	67 50	35 42	5,600 00	9,778 92	140 48
20	.....	1,100 00	.....	55 00	.....	1,100 00	1,414 06	.....
9	81	405 00	3,330 00	45 00	41 11	3,735 00	7,748 58	7 00

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
St. Johns	Clinton	872	823	61	200	$41,000		5	15
St. Joseph	Berrien	1,341	1,074	16	181	65,000	$14,500 00	3	23
St. Louis	Gratiot	600	630	32	193	30,000	13,000 00	3	11
Salem	Washtenaw	56	52	10	180	1,000		1	1
Saline	Washtenaw	228	172	26	200	25,000	3,005 00	2	5
Sanborn Tp.	Alpena	203	104		100	2,000	2,000 00		4
Sand Lake	Kent	116	85	12	180	2,500		1	2
Sanilac Center	Sanilac	233	239	19	200	10,000	6,300 00	1	3
Sanilac Tp. 2	Sanilac	100	75		178	1,500		1	
Sanilac Tp. 3	Sanilac	73	59	3	172	900		1	
Sanilac Tp. 8 fl.	Sanilac	81	66	2	180	500		1	
Sands Tp.	Marquette	70	49		150	1,400		1	2
Saranac	Ionia	292	277	47	200	12,000		2	6
Saugatuck	Allegan	273	199	16	180	12,000	3,250 00	2	3
Sault Ste. Marie	Chippewa	2,721	1,922		200	130,000	79,000 00	6	34
Schaffer	Delta	168	101		200	2,200	2,050 00		2
Schoolcraft	Kalamazoo	210	186	23	180	24,000		1	8
Scotts	Kalamazoo	88	72	4	180	5,000		1	1
Scottville	Mason	232	196	8	180	4,500		2	2
Sebewaing	Huron	523	266	4	200	4,000		2	3
Seney	Schoolcraft	53	46		200	1,500		1	
Shelby	Oceana	364	338	16	177	6,000		1	7
Shepherd	Isabella	207	183	8	180	2,500		1	3
Sheridan	Montcalm	192	141	15	200	1,000		1	4
Sherman	Wexford	160	165	5	180	2,000	35 00		3
Sherman Tp. 1	Huron	163	91		180	1,000	650 00		1
Sherwood	Branch	126	120	24	190	6,500		2	2
Sidnaw	Houghton	138	140		200	5,000		1	4
Siloam	Iosco	75	54	1	180	600			1
Six Lakes	Montcalm	90	71	2	180	1,000		1	1
Skandia Tp.	Marquette	138	94		120	350		1	3
Smiths' Creek	St. Clair	126	71	5	180	1,600		2	1
Smyrna	Ionia	81	54	4	200	910		1	1
Soule	Huron	99	96	2	200	650		1	
South Arm	Charlevoix	185	107		180	3,300	2,000 00	1	2
South Blendon	Ottawa	117	86		177	1,600		1	1
South Boardman	Kalkaska	105	98	10	180	300		1	1
South Frankfort	Benzie	189	158	7	200	4,500	40 00	1	3
South Haven	Van Buren	970	767	102	190	30,000	5,250 00	1	16
South Lyon	Oakland	179	135	25	190	4,000		1	4
South Rockwood	Monroe	117	96		180	3,000		1	1
Spalding Tp.	Menominee	952	762		180	15,000	8,589 27	2	19
Sparta	Kent	392	290	21	200	2,000		1	5
Spencer Tp. 1 fl.	Kent	115	77	2	160	900		1	2
Spring Lake	Ottawa	312	241	7	180	7,000	30 00	1	5
Springport	Jackson	153	127	16	200	5,000		1	3
Springwells Tp. 1	Wayne	1,061	529		200	30,000	27,500 00	1	9
Springwells Tp. 2	Wayne	1,234	705		194	50,000	33,000 00	1	17
Springwells Tp. 3	Wayne	368	184		200	12,000	9,400 00		4
Springwells Tp. 4	Wayne	1,116	661	3	200	20,000	9,000 00	1	8
Springwells Tp. 7	Wayne	868	530	25	200	22,400	17,000 00	1	11
Spurr Tp.	Baraga	75	49		200	2,800		1	2
Stambaugh Tp.	Iron	385	257	2	133	6,700	600 00	3	5
Standish	Arenac	463	371	10	180	8,000	4,000 00	1	5
Standish Tp. 3 fl.	Arenac	186	102		160	2,000			3
Stanton	Montcalm	441	358	16	190	9,000		1	9
Stanwood	Mecosta	116	118		180	1,600		2	1
Stephenson Tp.	Menominee	1,145	782		165	14,375	3,174 96	4	15

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
50	147	$3,330 00	$5,480 00	$66 60	$37 28	$8,810 00	$13,286 21	$989 00
27	207	2,600 00	9,341 25	96 30	45 12	11,941 25	28,313 43	123 50
22	110	1,800 00	3,725 00	80 00	33 86	5,525 00	8,004 13	212 12
9	6	360 00	120 00	40 00	20 00	480 00	551 41	17 00
16	50	856 00	1,640 00	53 50	32 80	2,496 00	4,277 31	263 10
.....	20	.....	540 00	.....	27 00	540 00	1,038 49	.....
9	18	360 00	450 00	40 00	25 00	810 00	1,074 00	61 25
10	30	550 00	800 00	55 00	26 67	1,350 00	3,004 37	77 25
9	.....	375 00	.....	41 67	.....	375 00	435 45	.....
9	.....	300 00	.....	33 33	.....	300 00	364 85	.....
9	.....	270 00	.....	30 00	.....	270 00	338 12	.....
4	11	212 50	440 00	50 00	40 00	652 50	874 98	.....
20	50	900 00	1,400 00	45 00	28 00	2,300 00	3,715 33	420 21
18	27	1,070 00	765 00	59 44	28 33	1,835 00	3,106 14	116 12
55	335	4,175 00	15,285 00	75 91	45 63	19,460 00	65,242 63	.....
.....	13	.....	490 00	.....	37 69	490 00	2,724 75	.....
9	72	1,000 00	2,350 04	111 11	32 63	3,350 04	4,603 03	319 88
9	9	360 00	225 00	40 00	25 00	585 00	959 13	4 50
18	18	765 00	585 00	42 50	32 50	1,350 00	1,669 94	43 00
20	20	900 00	600 00	45 00	30 00	1,500 00	1,904 63	6 00
10	.....	750 00	.....	75 00	.....	750 00	1,678 19	.....
9	54	700 00	1,746 00	77 78	32 48	2,446 00	3,234 25	166 00
9	27	540 00	810 00	60 00	30 00	1,350 00	1,893 68	30 00
10	28	500 00	780 00	50 00	30 00	1,280 00	1,845 32	.....
.....	27	.....	1,080 00	.....	40 00	1,045 00	1,461 90	19 00
.....	9	.....	225 00	.....	25 00	225 00	400 67	.....
19	19	760 00	570 00	40 00	30 00	1,330 00	1,640 87	64 25
10	20	650 00	850 00	65 00	42 50	1,500 00	2,579 28	.....
.....	9	.....	270 00	.....	30 00	270 00	364 61	.....
9	3	315 00	60 00	35 00	20 00	375 00	500 59	....
7	17	280 00	680 00	40 00	40 00	960 00	1,773 67	.....
16	2	525 00	40 00	32 81	20 00	565 00	706 85	13 55
10	10	350 00	250 00	35 00	25 00	600 00	712 86	20 00
10	.....	400 00	.....	40 00	.....	400 00	541 16	10 00
9	18	450 00	540 00	50 00	30 00	990 00	1,310 11	.....
9	9	360 00	180 00	40 00	20 00	540 00	664 82	.....
9	9	402 75	360 00	44 75	40 00	762 75	902 08	5 25
10	30	650 00	900 00	65 00	30 00	1,550 00	1,849 73	7 50
10	147	1,100 00	5,068 00	115 79	34 47	6,168 00	9,051 17	937 25
10	38	600 00	1,140 00	63 16	30 00	1,740 00	2,230 35	262 77
9	9	337 50	180 00	37 50	20 00	517 50	571 75	.....
20	170	1,250 00	6,920 00	62 50	40 71	8,170 00	14,686 04	.....
10	50	700 00	1,775 00	70 00	35 50	2,475 00	3,126 32	204 90
8	8	218 00	204 00	27 25	25 50	422 00	482 01	.....
9	45	700 00	1,335 00	77 78	30 00	2,035 00	2,726 83	23 50
10	30	600 00	1,000 00	60 00	33 33	1,600 00	2,027 43	107 75
10	90	1,000 00	3,700 00	100 00	41 11	4,700 00	8,245 88	.....
10	170	1,200 00	6,555 00	120 00	38 56	7,755 00	16,005 10	.....
.....	40	.....	1,680 00	.....	42 25	1,680 00	3,821 80	.....
10	80	900 00	3,000 00	90 00	37 50	3,900 00	5,586 64	.....
10	90	1,000 00	3,020 00	100 00	33 75	4,020 00	6,530 77	56 60
10	20	700 00	900 00	70 00	45 00	1,600 00	2,780 00	....
22	38	1,110 00	1,590 00	50 45	41 84	2,700 00	4,208 80	.....
9	45	600 00	1,395 00	66 66	31 00	1,995 00	2,845 51	.....
.....	24	.....	622 50	.....	25 94	622 50	1,092 80	.....
10	85	712 50	2,755 00	75 00	31 05	3,467 50	4,313 18	154 75
9	9	335 00	225 00	37 22	25 00	560 00	792 78	.....
34	126	1,740 00	4,130 50	50 44	32 91	5,870 50	10,205 40	.....

TABLE XVI.—CONTINUED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Sterling	Arenac	213	148	1	160	$3,365		1	2
Stevensville	Berrien	270	184	5	160	5,000		1	3
Stockbridge	Ingham	196	152	32	200	5,000	$400 00	2	3
Stronach	Manistee	207	152		200	2,700		1	1
Sturgis	St. Joseph	646	508	19	180	50,000	3,000 00	2	10
Sumner	Gratiot	118	102		180	5,000		1	1
Sunfield	Eaton	157	124	30	180	4,000		1	3
Superior Tp	Chippewa	648	422		180	3,950	2,000 00	3	8
Sutton's Bay	Leelanau	232	166	8	160	6,000		1	2
Swartz Creek	Genesee	58	52	16	176	2,000		1	2
Tawas City	Iosco	494	389		200	7,500		2	5
Tecumseh	Lenawee	602	478	54	196	26,000		1	14
Tekonsha	Calhoun	177	148	29	176	5,500		2	4
Thompson	Schoolcraft	167	127		177	1,500		2	1
Thompsonville	Benzie	329	324		180	3,000	800 00	2	4
Thornville	Lapeer	91	69	2	180	2,500		1	1
Three Oaks	Berrien	392	283	20	180	6,500		2	5
Three Rivers	St. Joseph	873	800	15	187	25,000	1,160 95	4	20
Tilden Tp	Marquette	523	340		200	4,000		2	5
Torch Lake Tp. 6	Houghton	170	138		180	3,500	250 22	1	3
Traverse City	Gd. Traverse	2,631	1,900	86	180	140,000	33,000 00	4	43
Trenton	Wayne	414	301	9	200	2,000	10,000 00	1	4
Trufant	Montcalm	183	142	3	180	1,200		1	1
Turin Tp	Marquette	30	22		154	1,500			1
Turner	Arenac	240	240		180	2,000	1,524 20		3
Tuscola	Tuscola	123	71	3	180	1,000		1	1
Tustin	Osceola	143	134	2	180	3,500	1,500 00	2	1
Twining	Arenac	207	147		135	1,500	1,222 22	1	1
Ubly	Huron	193	145		200	2,000	30 00	1	1
Union City	Branch	381	290	50	200	25,000		2	10
Unionville	Tuscola	199	143	11	200	2,500		1	3
Utica	Macomb	275	148	21	200	8,000		1	4
Vandalia	Cass	152	136	6	179	6,000		1	3
Vanderbilt	Otsego	151	91	3	180	2,000		2	1
Vassar	Tuscola	528	452	29	200	25,000		1	10
Vermontville	Eaton	196	207	56	190	10,000		1	5
Vernon	Shiawassee	151	107	12	200	6,500	3,500 00	1	3
Vicksburg	Kalamazoo	240	227	21	180	7,000		3	5
Vriesland	Ottawa	161	122		200	2,500		1	1
Wacousta	Clinton	83	70	10	180	1,000		1	1
Wakefield Tp	Gogebic	396	270		198	5,000	292 08	1	5
Waldron	Hillsdale	131	102	10	180	3,000		1	2
Walled Lake	Oakland	78	62	3	200	2,000		1	1
Warren	Macomb	125	78	4	180	2,000	600 00	1	1
Warren Tp. 1 fl	Macomb	119	78		180	1,800	34 79	1	1
Washingt'n Tp 12 fl	Macomb	85	60	13	200	1,500		1	1
Washington Tp. 1	Sanilac	70	52		180	600		1	
Washington Tp. 4	Sanilac	70	48		190	1,000		2	
Waterford	Oakland	76	67	8	195	4,500		1	1
Watervliet	Berrien	346	244	12	180	10,000	3,000 00	2	5
Watrousville	Tuscola	101	96	6	180	2,000		1	1
Wayland	Allegan	146	144	44	180	7,500	3,500 00	1	3
Wayne	Wayne	369	319	25	196	15,000	1,000 00	1	9
Webberville	Ingham	152	98	4	180	4,000	500 00	1	2
Weidman	Isabella	211	172	1	180	2,400	1,600 00	1	2
West Bay City	Bay	4,231	3,675	12	193	150,000	77,000 00	7	54
West Branch	Ogemaw	511	398	21	190	10,000	8,500 00	1	5

TABLE XVI.—CONTINUED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
8	16	$400 00	$440 00	$50 00	$27 50	$840 00	$1,163 46	.....
8	24	460 00	840 00	57 50	35 00	1,300 00	1,569 88	$35 57
20	30	1,000 00	985 00	50 00	32 83	1,985 00	2,743 24	255 25
10	10	500 00	350 00	50 00	35 00	850 00	1,182 26	....
18	90	1,424 00	3,402 00	79 11	37 80	4,826 00	9,543 18	200 55
9	9	324 00	270 00	36 00	30 00	594 00	758 47	.....
9	26	360 00	532 50	40 00	20 29	892 50	967 22	181 95
25	68	1,200 00	2,585 00	48 00	38 01	3,785 00	6,500 68	.....
8	16	450 00	500 00	56 25	31 25	950 00	1,236 98	.....
9	9	405 00	225 00	45 00	25 00	630 00	872 08	30 88
20	50	742 50	1,800 00	37 13	36 00	2,542 50	3,198 76	.....
10	140	1,200 00	4,875 00	120 00	34 82	6,075 00	8,871 93	706 88
18	18	810 00	547 50	45 00	30 42	1,357 50	1,879 21	261 16
9	9	442 50	348 00	50 28	40 00	790 50	1,308 66	.....
14	27	620 00	925 00	44 29	34 26	1,545 00	1,902 40	11 00
9	9	360 00	252 00	40 00	28 00	612 00	704 60	5 00
18	45	1,165 00	1,665 00	64 72	37 00	2,830 00	3,917 86	180 63
39	195	2,808 75	7,071 25	72 02	36 26	9,880 00	13,400 07	120 00
20	50	1,400 00	2,500 00	70 00	50 00	3,900 00	6,430 47	.....
9	18	425 00	800 00	47 22	44 44	1,225 00	1,788 27	.....
36	387	3,525 00	17,186 69	97 92	44 41	20,711 69	39,930 76	869 88
10	40	700 00	1,150 00	70 00	28 75	1,850 00	8,719 78	44 50
9	9	315 00	252 00	35 00	28 00	567 00	665 17	.....
.....	8	.....	320 00	.....	40 00	320 00	555 22	.....
.....	27	.....	945 00	.....	35 00	900 00	2,174 96	.....
9	9	360 00	180 00	40 00	20 00	540 00	820 04	.....
18	9	737 00	315 00	40 94	35 00	1,052 00	1,660 04	23 50
7	7	315 00	175 00	45 00	25 00	490 00	2,136 29	.....
10	10	480 00	310 00	48 00	31 00	790 00	987 27	.....
20	100	1,500 00	3,425 00	75 00	34 25	4,925 00	6,475 98	500 75
10	20	500 00	530 00	50 00	26 50	1,030 00	1,366 86	46 40
10	40	900 00	1,200 00	90 00	30 00	2,100 00	3,153 51	217 57
9	27	450 00	756 00	50 00	28 00	1,206 00	1,551 62	22 80
18	9	742 50	292 50	41 25	32 50	1,035 00	1,241 98	10 00
10	100	1,000 00	3,180 00	100 00	31 80	4,180 00	6,062 06	200 90
10	47	700 00	1,567 50	73 68	33 00	2,267 50	2,932 64	452 48
10	30	700 00	900 00	70 00	30 00	1,600 00	6,891 34	110 16
27	36	1,680 00	1,123 63	58 88	31 21	2,713 63	3,791 74	296 98
10	10	480 00	230 00	48 00	23 00	710 00	944 59	.....
9	9	315 00	225 00	35 00	25 00	540 00	1,264 71	33 15
5	55	400 00	2,900 00	80 00	52 73	3,300 00	5,445 37	.....
9	18	450 00	495 00	50 00	27 50	945 00	1,250 47	60 50
10	10	350 00	200 00	35 00	20 00	550 00	965 81	9 67
9	9	450 00	198 00	50 00	22 00	648 00	997 62	20 00
9	9	252 00	180 00	28 00	20 00	432 00	682 59	.....
10	10	450 00	250 00	45 00	25 00	700 00	803 07	93 75
9	.....	315 00	.....	35 00	.....	315 00	387 67	.....
10	.....	313 00	.....	32 85	.....	313 00	396 34	.....
10	10	500 00	280 00	50 00	28 00	780 00	924 31	51 50
18	45	1,080 00	1,800 00	60 00	40 00	2,880 00	4,055 61	99 40
9	9	450 00	225 00	45 00	25 00	675 00	725 33	14 75
9	27	675 00	765 00	75 00	28 33	1,440 00	2,037 24	358 18
10	90	850 00	3,000 00	85 00	33 34	3,850 00	5,198 72	202 30
9	18	405 00	450 00	45 00	25 00	855 00	1,982 32	14 00
9	18	405 00	450 00	45 00	25 00	855 00	1,300 54	.....
70	540	4,650 00	20,394 50	66 43	37 77	25,044 50	41,568 00	220 30
10	47	900 00	1,680 00	94 74	35 37	2,580 00	3,961 36	12 00

TABLE XVI.—CONCLUDED.

Districts.	Counties.	Number of children between 5 and 20 years.	Number of children that attended school during the year.	Number of non-resident pupils that attended.	Number of days school.	Estimated value of school property.	Total indebtedness.	Number of teachers employed.	
								Men.	Women.
Weston	Lenawee	96	87	1	180	$4,000		1	1
Wheeler	Gratiot	73	79		180	1,000		1	1
White Cloud	Newaygo	191	196	16	180	7,000	$1,500 00	1	3
Whitehall	Muskegon	523	376	3	180	30,000		2	8
White Pigeon	St. Joseph	214	163	18	200	1,800		1	6
White Rock	Huron	67	52		160	1,000		1	
Whittemore	Iosco	150	120	7	200	1,200		1	1
Williamsburg	G'd Traverse	107	87	8	180	1,300	30 00	1	1
Williamston	Ingham	347	320	70	194	20,000		2	7
Winters	Alger	85	45		145	1,400	762 97	2	1
Wixom	Oakland	49	36	4	179	1,500		1	1
Wolverine	Cheboygan	241	163	7	180	3,000		1	3
Woodland	Barry	111	100	12	180	3,000		1	2
Wyandotte	Wayne	1,758	1,000	10	195	50,000	8,000 00	1	17
Wyoming Tp. 7	Kent	228	164	2	200	4,000	3,000 00	1	1
Wyoming Tp. 8 fl.	Kent	155	103		180	1,000	166 67		1
Wyoming Tp. 9 fl.	Kent	244	202	24	200	6,500	4,100 00	1	4
Yale	St. Clair	402	329	20	199	12,000	2,500 00	1	6
York	Washtenaw	103	68		180	3,500		1	1
Ypsilanti	Washtenaw	1,687	1,067	59	192	60,000	4,000 00	4	26
Zeeland	Ottawa	571	377	9	200	6,500	900 00	1	9
Zilwaukee	Saginaw	365	283		195	5,000	500 00	1	3
Zutphen	Ottawa	149	96		200	1,000		1	1

TABLE XVI.—CONCLUDED.

Aggregate number of months taught by all teachers.		Total wages of teachers for the year.		Average monthly wages of teachers.		Amount paid for superintendence and instruction.	Total cost of school.	Tuition of non-resident pupils.
Men.	Women.	Men.	Women.	Men.	Women.			
9	9	$405 00	$225 00	$45 00	$25 00	$630 00	$701 65	$0 75
8	9	280 00	270 00	35 00	30 00	550 00	596 00	.....
9	27	450 00	810 00	50 00	30 00	1,260 00	1,945 31	29 50
18	72	1,170 00	2,160 00	65 00	30 00	3,330 00	4,527 70	18 50
10	60	800 00	1,820 00	80 00	30 33	2,620 00	3,550 67	171 65
8	.....	240 00	.....	30 00	.....	240 00	329 78	.....
10	10	400 00	250 00	40 00	25 00	650 00	807 41	.....
9	9	382 50	279 00	42 50	31 00	661 50	731 39	.....
20	70	1,500 00	2,365 00	75 00	33 79	3,865 00	5,933 20	552 50
15	7	600 00	280 00	40 00	40 00	880 00	1,577 50	.....
9	9	337 50	180 00	37 50	20 00	517 50	570 81	13 50
9	27	447 50	805 50	49 72	29 83	1,253 00	1,535 18	53 52
9	18	405 00	465 40	45 00	25 86	870 40	1,368 38	84 60
10	170	1,150 00	6,667 50	115 00	39 22	7,817 50	14,397 13	95 50
10	10	430 00	380 00	43 00	38 00	810 00	1,167 35	.....
.....	9	.....	270 00	.....	30 00	270 00	315 32	.....
10	29	500 00	755 00	50 00	26 03	1,255 00	2,229 92	137 00
10	60	750 00	1,760 00	75 00	29 34	2,510 00	3,617 54	188 73
9	9	407 50	270 00	45 28	30 00	677 50	849 01	.....
40	260	4,000 00	10,289 37	100 00	39 57	14,289 37	21,573 79	782 12
10	80	700 00	2,162 75	70 00	27 03	2,862 75	4,247 14	41 61
10	30	550 00	750 00	55 00	25 00	1,300 00	1,842 54	.....
10	10	304 00	240 00	30 40	24 00	544 00	749 81	.....

*TABLE XVII.

Miscellaneous statistics of city schools as reported by superintendents for the school year 1899–1900.

Cities and villages having a population over 4,000, census 1894.	School population from inspector's report.	Enrollment.				Average number belonging.				Average daily attendance.				Number of regular teachers employed.								Portion of superintendent's time devoted to supervision.
		High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	H. S. department.		Grammar department.		Primary department.		† Whole school.		
														Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	
Adrian	2,452	261	736	1,046	2,043	233	476	684	1,393	228	450	635	1,313	2	5	.....	13	.....	18	3	36	all
Albion	1,108	227	416	479	1,122	198	317	335	850	192	296	308	796	2.1	4	.....	8	.....	10	3	22	5-6
Alpena	4,378	123	461	1,428	2,012	104	384	1,060	1,548	106	381	983	1,470	2	2.5	.....	11	.....	22.5	3	36	all
Ann Arbor	3,185	618	669	1,082	2,369	496	660	928	2,082	475	650	877	2,002	7.5	12	.3	16	.2	28	8	56	all
Battle Creek	4,322	414	942	2,047	3,403	330	794	1,664	2,788	319	766	1,598	2,683	3	10	2	22	.....	40	6	72	all
Bay City	9,347	540	1,311	2,964	4,815	405	1,121	2,213	3,681	394	1,093	2,119	3,468	6.5	9	.5	36	1	65	9	110	all
Benton Harbor	1,639	167	533	847	1,547	159	509	809	1,477	153	505	804	1,462	.2	5	1	9	.....	15	1	29	3-4
Big Rapids	1,446	162	369	584	1,115	143	306	398	847	137	282	378	797	.4	4.5	.....	8.5	.....	11	1	24	2-3
Cadillac	1,817	176	574	941	1,691	145	450	698	1,293	143	421	668	1,232	1.1	5	.....	11	.....	15	2	31	7-8
Calumet	7,591	241	967	3,649	4,857	214	870	2,836	3,920	204	782	2,624	3,610	4	5	1	13	.....	71	6	89	all
Charlotte	904	175	311	484	970	145	274	327	746	140	264	309	713	1.1	4	.....	8	.....	10	2	22	6-7
Cheboygan	2,301	97	530	1,200	1,827	75	353	667	1,095	72	314	606	992	1.5	1	1	8	.....	13	3	22	1-2
Coldwater	1,497	140	311	605	1,056	117	247	493	857	113	237	467	817	3.3	2	1	6.5	.....	12.5	5	21	5-7
Detroit	81,077	2,730	16,627	40,750	60,107	2,184	8,786	20,122	31,092	2,104	8,404	18,893	29,401	34	69	20	271	6	490	62	830	all
Escanaba	2,860	92	455	1,177	1,724	79	315	778	1,172	76	300	753	1,129	1.5	2	.....	8	1	17	3	27	1-2
Flint	3,117	413	825	1,160	2,398	357	727	960	2,044	348	709	911	1,968	6	6	.....	20	.....	25	7	51	all
Grand Haven	1,678	152	590	720	1,462	142	358	582	1,082	141	361	599	1,101	3	3	.....	8	.....	15	4	28	all
Grand Rapids	26,093	1,526	6,978	13,915	22,419	1,117	3,996	7,790	12,903	1,075	3,780	7,332	12,187	12.7	22	4.7	110	3.6	217	22	349	all
Hillsdale	951	220	328	429	977	205	277	310	792	198	267	299	764	1	4	1	6	.....	7	3	17	all
Holland	2,338	150	599	1,272	2,021	135	491	947	1,573	131	465	875	1,471	1	3	.....	11	.....	21	1	35	all
Ionia	1,432	178	472	449	1,099	127	261	416	804	62	105	332	499	.5	5.5	.5	9.5	.5	12	2	27	1-2
Iron Mountain	2,985	140	839	1,986	2,965	124	565	1,375	2,064	119	527	1,282	1,928	2.1	2	1	14	1	27	4	43	5-6
Ironwood	3,111	127	750	1,431	2,308	123	695	1,122	1,940	109	581	928	1,618	2	3	.....	16	.....	32	3	51	all
Ishpeming	4,169	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jackson	5,772	371	1,180	2,774	4,325	317	944	1,951	3,212	307	901	1,844	3,052	3	7	5	24	.....	48	9	79	all
Kalamazoo	5,856	414	1,881	3,139	5,434	334	1,145	1,907	3,386	326	1,071	1,786	3,183	2	10	1	27	.....	48	4	85	all
Lansing	3,921	462	1,017	1,582	3,061	395	941	1,191	2,527	.....	.....	.....	.....	4	9	1	26	.....	36	6	71	9-10
Ludington	2,551	164	467	1,215	1,846	144	355	981	1,480	140	345	727	1,412	2	4	.....	11	.....	25	3	40	all
Manistee	4,213	288	1,050	2,931	4,269	237	614	2,002	2,853	227	581	1,824	2,632	6	5	.....	18	1	51	8	74	all
Marquette	2,844	147	622	1,050	1,819	125	581	872	1,528	123	425	797	1,345	2	3	3	8	.....	21	5	33	all

Marshall	1,060	182	372	442	996	158	237	319	714	154	229	306	688	2.4	3	.....	7	.....	10	3	20	3-5
Menominee	4,363	174	990	1,844	3,008	150	733	1,638	2,471	151	828	1,498	2,477	3	4	1	16	.....	30	5	50	all
Monroe	1,700	147	284	371	802	132	198	269	599	124	186	245	555	2.8	2	.....	5	.....	9	3	16	3-4
Mt. Clemens	2,134	123	281	830	1,234	110	252	565	927	107	244	546	897	1	4	.....	7	.....	14	2	25	all
Muskegon	7,329	425	1,338	3,424	5,187	369	1,101	2,428	3,814	364	1,041	2,314	3,520	3	9	.....	32	.....	66	4	107	all
Negaunee	2,126	104	337	1,083	1,524	88	293	822	1,203	84	287	790	1,161	2.1	2	.....	8	.....	18	3	28	6-7
Niles	1,175	157	302	635	1,094	143	270	487	900	141	255	467	863	1.5	3	.....	6	.....	12	2	21	1-2
Owosso	2,358	266	849	911	2,026	248	762	865	1,875	226	627	775	1,628	4	5	3	11	.....	20	8	36	all
Pontiac	1,903	213	467	765	1,445	176	398	569	1,143	169	380	533	1,082	3	3	1.5	9	.5	15	6	27	all
Port Huron	5,924	277	1,202	2,383	3,862	240	1,155	1,386	2,781	225	1,085	1,571	2,881	2	8	.....	22	.....	42	3	72	all
Saginaw	8,306	574	1,885	2,957	5,416	501	1,482	2,257	4,240	484	1,406	2,145	4,035	7	12	5	60	.....	56	13	128	all
Saginaw, W. S.	5,398	298	1,229	2,184	3,711	257	954	1,639	2,850	251	915	1,557	2,723	3	7	3	24	.....	42	7	73	all
St. Joseph	1,341	149	358	645	1,152	149	325	543	1,017	134	291	400	825	2.1	3	.....	8	.....	12	3	23	9-10
Sault Ste. Marie	2,721	195	750	1,006	1,951	165	590	802	1,547	169	575	894	1,638	1	5	3	10	.....	18	5	33	all
Traverse City	2,631	335	900	1,000	2,235	295	700	652	1,647	280	720	554	1,554	3.2	6	.....	16	.....	18	4	40	5-6
West Bay City	4,231	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wyandotte	1,758	90	400	550	1,040	80	350	500	930	78	325	450	853	.5	3	.....	7	.....	7	1	17	1-2
Ypsilanti	1,687	254	350	554	1,158	224	298	437	959	216	281	407	904	2.4	5	.....	8	.....	11	3	24	2-3

* Where a blank occurs the item was not reported.
† Superintendent included.

*TABLE XVII.—CONTINUED.

Cities and villages having a population between 1,000 and 4,000, census 1894.	School population from inspector's report.	Enrollment.				Average number belonging.				Average daily attendance.				Number of regular teachers employed.								Portion of superintendent's time devoted to supervision.
		High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	H. S. departm't.		Grammar departm't.		Primary departm't.		† Whole school.		
														Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	
Algonac	496	60	106	226	392	60	106	226	392	55	95	190	340	1	1	.....	2	.....	3	1	6	1-10
Allegan	680	144	240	280	664	109	230	266	605	102	226	244	572	1.6	2	.....	6	.....	8	2	16	3-8
Alma	583	83	174	300	557	67	136	199	402	57	130	185	372	.8	2	.....	3	.....	5	1	10	1-5
Atlantic Mine	982	44	183	379	606	35	122	260	417	34	119	239	392	1	1	2	1	1	5	4	7	1-12
Au Sable	651	50	153	290	493	46	140	248	434	40	106	208	354	.8	1	.....	3	.....	3	1	7	1-4
Bad Axe	465	81	145	261	487	71	137	246	454	63	125	185	373	.6	1	.....	4	.....	5	1	10	2-5
Baraga	742	21	112	350	483	15	75	235	325	13	71	223	307	.6	1	.....	2	.....	5	1	8	1-3
Belding	784	102	193	375	670	100	185	266	551	98	170	198	466	.5	2	.....	5	.....	6	1	13	1-2
Bessemer	948	62	179	485	726	54	148	422	624	52	136	387	575	.2	2	.....	5	.....	7	1	14	4-5
Blissfield	228	52	63	122	237	42	51	91	184	40	50	84	174	.8	.4	.....	1.3	.....	1.3	1	3	1-5
Buchanan	415	106	141	186	433	100	140	148	388	97	115	142	354	1.7	2	.....	4	.....	4	2	10	2-7
Caro	571	114	181	275	570	102	153	214	469	96	144	191	431	.5	3	.....	4	.....	4	1	11	1-2
Carson City	319	41	100	140	281	40	85	130	255	35	80	109	224	.5	1.5	.....	2.5	.....	3	1	7	1-2
Cassopolis	391	81	115	165	361	64	97	116	277	62	95	105	262	1	2	.....	3	.....	3	1	8	1-6
Cedar Springs	297	60	83	128	271	46	74	110	230	43	68	107	218	1	1	.....	3	.....	2	1	6	1-10
Champion	611	37	85	318	440	33	69	287	389	31	66	259	356	.6	2	.....	2	.....	5	1	9	3-7
Charlevoix	702	92	185	342	619	74	152	267	493	71	146	249	466	.5	2	.....	4	.....	6	1	12	1-2
Chelsea	437	96	127	173	396	86	100	128	314	80	97	124	301	1	3	.....	4	.....	4	1	11	1-8
Chesaning	338	75	84	166	325	61	72	122	255	59	68	116	243	.8	2	.....	2.5	.....	2.5	1	7	1-4
Clare	569	59	158	220	437	54	140	190	384	50	140	175	365	.8	1	1	2	.....	4	2	7	1-4
Clinton	277	58	78	114	250	48	80	102	230	46	75	95	216	1	.....	.....	2	.....	3	1	5	.....
Coleman	443	24	90	329	443	19	71	251	341	15	60	186	261	1	.5	1	.5	.....	4	2	5	1-12
Constantine	277	105	75	113	293	94	68	87	249	89	63	83	235	.8	3	.....	2	.....	2	1	7	1-5
Corunna	416	76	103	200	379	60	84	140	284	54	78	127	259	.7	2	.....	3	.....	4	1	9	2-7
Crystal Falls	981	52	287	894	1,233	38	152	506	696	37	145	467	649	.2	2	.....	4	.....	10	1	16	3-4
Decatur	392	82	32	180	303	73	27	179	279	71	27	166	264	.8	2	.....	1	.....	4	1	7	1-5
Dowagiac	1,159	140	293	690	1,123	116	242	455	813	115	239	432	786	2.3	2	.....	6	.....	11	3	19	5-7
Dundee	347	61	110	163	334	58	102	154	314	56	100	139	295	1	1	.....	3	.....	4	1	8	1-12
East Lake	791	.....	44	473	517	.....	40	434	474	.....	36	296	332	.....	.....	1	.....	.....	4	1	4	.....
East Tawas	679	65	145	300	510	60	120	225	405	55	130	240	425	.8	1	1	1	.....	6	2	8	1-4
Eaton Rapids	474	135	226	254	615	115	138	175	428	112	134	170	416	1.3	3	.....	4	.....	5	2	12	5-7

Elk Rapids	601	48	130	277	455	44	113	209	366	44	90	194	328	.6	1.5	.....	3.5	.....	6	1	11	3-8
Essexville	614	.....	86	81	167	.....	81	80	161	.....	73	75	148	.....	.....	1	1	.....	2	1	3	1-36
Evart	459	77	61	246	484	67	146	210	423	57	122	155	334	.6	1	.....	4	.....	5	1	10	3-7
Fenton	614	85	195	264	544	78	170	222	470	76	160	204	440	1.7	1	1	3	.....	6	3	10	2-7
Flushing	202	53	96	98	247	49	85	92	226	45	93	95	233	1	.....	.....	2	.....	2	1	5	1-6
Frankfort	557	57	147	243	447	46	125	169	340	36	118	160	314	.5	1	.....	4	.....	5	1	10	1-2
Fremont	400	57	34	281	372	43	28	205	276	38	26	200	264	1	3	.....	2	.....	2	1	7	1-12
Gladstone	826	48	155	476	679	40	125	415	580	39	122	347	508	.6	2	.....	3	.....	8	1	13	1-3
G'd Ledge, No. 9	286	81	116	92	289	.....	.....	.....	.....	.....	.....	.....	.....	1	2	.....	2	.....	2	1	6	.....
Greenville	857	141	377	586	1,104	129	290	350	769	117	207	306	630	1.4	3	.....	5	.....	8	2	16	5-8
Hancock	1,808	105	283	1,214	1,602	64	129	557	750	61	127	532	720	1.4	3	.....	3	.....	14	2	20	2-3
Harbor Beach	421	36	97	195	328	29	93	171	293	27	84	155	266	1	1	1	1.3	.....	3.7	2	6	1-8
Hartford	347	87	82	172	341	74	71	132	277	54	56	106	216	1	.5	.....	2	.....	2.5	1	5	1-10
Hastings	760	154	241	365	760	132	213	258	603	127	199	253	579	3.5	2	.....	6	.....	7	4	15	1-2
Holly	427	114	165	231	510	83	95	142	320	80	92	137	309	.8	2	.....	2	.....	3	1	7	1-5
Homer	262	67	41	155	263	65	40	150	255	61	39	146	246	1	2	.....	3	.....	2	1	7	1-6
Houghton, No. 1	1,139	52	120	494	666	40	85	313	438	38	83	301	422	1.6	1	.....	4	.....	10	2	15	2-5
Howard City	436	59	100	231	390	41	62	181	284	38	60	161	259	1	1	.....	2	.....	4	1	7	.....
Howell	597	147	124	299	570	138	109	269	516	134	108	265	507	3.6	2	.....	3	.....	9	4	14	3-7
Hudson	372	95	150	156	401	72	98	140	310	67	88	130	285	1	3	.....	3	.....	3	1	9	1-6
Imlay City	502	97	133	173	403	88	120	156	364	86	116	138	340	1	1.5	.....	2.5	.....	3	1	7	1-6
Ithaca	617	110	168	324	602	98	142	226	464	93	136	207	436	.6	2	.....	3	.....	5	1	10	3-8
Jonesville	339	75	98	152	325	65	78	106	249	61	67	101	229	1	1.5	.....	2	.....	2	1	5.5	1-8
Kalkaska	396	53	112	184	349	28	74	151	253	26	67	126	219	1	1	1	1	.....	3	2	5	1-8
Lake City	270	23	35	178	236	20	30	170	220	18	25	140	183	1	.....	.....	1	.....	4	1	5	.....
Lake Linden	2,125	159	236	628	1,023	134	198	458	790	134	196	452	782	.3	5	.....	8	.....	14	1	27	2-3
Lakeview	390	77	100	250	427	60	89	210	359	57	80	185	322	.8	.5	1	.5	.....	3.5	2	4.5	1-5
Lapeer	730	119	198	312	629	.....	.....	.....	.....	109	188	296	593	2	5	.....	5	.....	8	2	18	1-6
Leslie	307	86	75	96	257	78	70	88	236	74	66	75	215	.8	1	.....	2	.....	2	1	5	1-5
Lowell	664	104	186	201	491	94	179	194	467	95	92	94	281	.5	2	2	3	.....	5	3	10	1-2
Mancelona	538	50	57	343	450	40	36	258	334	37	35	318	390	1	1	.....	1	1	6	2	8	.....
Manchester	406	88	105	173	366	75	93	157	325	71	84	151	306	1	1	.....	3	.....	4	1	8	1-8
Manistique	1,231	37	364	594	995	28	185	596	809	27	100	549	676	1.4	1	.....	5	.....	13	2	19	5-8
Marcellus	262	65	79	122	266	60	65	105	230	52	50	95	197	1	2	.....	2	.....	2	1	6	1-8
Marine City	1,298	64	197	432	693	52	165	303	520	49	145	286	480	.7	2	1	3	.....	6	2	11	1-3
Mason	415	118	111	205	434	98	93	135	326	94	86	126	306	.5	3	.....	2.8	.....	4.2	1	10	1-2
Midland	714	91	271	353	715	66	224	235	525	61	211	217	489	1	2	.....	4	.....	4	1	10	.....
Milford	275	70	90	96	256	56	85	90	231	50	80	89	219	2	.....	1	1	.....	3	3	4	1-8
Montague	371	41	87	145	273	38	78	126	242	36	73	117	226	1	1	.....	2	.....	5	1	8	1-9
Morenci	266	59	76	122	257	50	71	103	224	41	60	80	181	.8	1.5	.....	2	.....	2.5	1	6	1-4
Mt. Pleasant	1,096	123	267	439	829	105	238	314	657	101	225	290	616	2.4	2	1	6	.....	10	4	18	4-7
Nashville	306	77	101	97	275	75	90	90	255	70	85	86	241	2.7	1	.....	3	.....	3	3	7	1-3
Newaygo	502	47	80	226	353	36	67	149	252	32	60	137	229	1	1	.....	2	.....	2	1	5	.....
Newberry	507	42	78	137	257	40	70	126	235	40	70	120	230	.8	1	.....	2	.....	2	1	5	1-4

* Where a blank occurs the item was not reported.
† Superintendent included.

*TABLE XVII.—CONTINUED.

Cities and villages having a population between 1,000 and 4,000, census 1894.	School population from inspector's report.	Enrollment.				Average number belonging.				Average daily attendance.				Number of regular teachers employed.								Portion of superintendent's time devoted to supervision.
		High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	H. S. departm't.		Grammar departm't.		Primary departm't.		† Whole school.		
														Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	
Northville	440	74	122	235	431	65	107	181	353	62	92	158	312	1	2	.....	3	.....	4	1	9	1-6
Norway	1,434	74	356	620	1,050	70	250	570	890	68	245	532	845	.6	2	.....	5	.....	6	1	13	1-3
Ontonagon	440	25	55	350	430	22	45	325	392	20	40	300	360	.....	1.5	.....	2	.....	5	.....	9	1-2
Oscoda	500	38	119	170	327	38	110	160	308	38	105	150	293	.....	2	.....	2	.....	3	.....	7	1-12
Otsego	597	115	166	341	622	93	125	218	436	91	120	182	392	.7	2	.....	6	.....	4	1	12	1-3
Ovid	381	86	104	168	358	74	89	147	310	64	88	92	244	1.8	1	.....	2	.....	4	2	7	1-4
Oxford	302	65	76	116	257	58	68	91	217	52	64	83	199	1	2	.....	2	.....	2	1	6	1-8
Paw Paw	367	120	100	130	350	108	90	110	308	101	92	100	293	1	3	1	1	.....	3	2	7	1-6
Pentwater	303	41	102	233	376	39	89	192	320	37	80	168	285	.8	2	.....	2	.....	4	1	8	1-4
Petoskey	1,260	98	398	687	1,183	82	256	447	785	79	246	419	744	.3	3	.....	8	.....	11	1	22	5-7
Pinconning	297	34	60	134	228	26	60	134	220	20	50	120	190	2	.....	.....	1	.....	2	2	3	1-12
Plainwell	302	138	110	169	417	116	93	106	315	109	87	106	302	1.8	3	.....	2.5	.....	2.5	2	8	1-5
Plymouth	452	61	103	235	399	55	100	170	325	50	83	146	279	1	1	.....	3	.....	4	1	8	1-8
Portland	530	144	188	212	544	123	156	198	477	119	150	187	456	1.3	3	.....	4	.....	4	2	11	5-7
Quincy	339	81	102	137	320	67	88	92	247	63	78	84	225	2	.....	.....	2	.....	4	2	6	1-8
Reading	263	66	90	122	278	58	80	100	238	58	80	100	238	1	1	.....	2	.....	2	1	5	.....
Reed City	733	94	189	377	660	76	145	254	475	74	135	233	442	1.5	3	.....	4	.....	6	1	13	1-2
Republic	852	34	214	447	695	27	142	349	518	25	120	316	461	1	2	.....	3	.....	6	1	11	1-7
Richmond	212	50	79	103	232	42	67	79	188	40	64	77	181	1	1	1	1	.....	1	2	3	.....
Rochester	374	50	121	172	343	41	89	112	242	36	78	101	215	1	.4	.....	2.3	.....	2.3	1	5	.....
Romeo	473	106	278	234	618	95	124	123	342	93	120	119	332	2.2	1	1.5	1	.....	4	4	6	1-4
Sebewaing	523	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Haven	970	172	242	498	912	139	199	344	682	133	181	329	643	.3	4	.....	4.5	.....	8.5	1	17	2-3
St. Clair	761	99	346	595	1,040	86	173	264	523	84	165	248	497	.5	3	.....	3	.....	6	2	12	1-2
St. Ignace	724	27	181	251	459	23	175	228	426	22	166	212	400	.....	1.8	.6	2.7	.4	4 3	1	9	1-5
St. Johns	872	184	289	400	873	173	206	317	696	170	203	290	663	3.4	2	2	4	.....	8	6	14	3-5
St. Louis	600	113	181	462	756	90	141	274	505	82	129	228	439	.8	2	1	3	.....	5	2	10	1-4
Stanton	441	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sturgis	646	69	157	282	508	65	115	206	386	63	110	194	367	1.5	1	.....	4	.....	5	2	10	1-2
Tawas City	494	40	102	247	389	31	90	177	298	26	84	157	267	1	1	.....	2	1	2	2	5	1-6
Tecumseh	602	148	195	246	589	124	165	193	482	120	151	182	453	.5	4	.....	4	.....	5	1•	13	1-2

Three Rivers	873	135	243	422	800	123	216	313	652	116	199	289	604	3	2	.4	6	.....	11	4	19	4-7
Union City	381	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vassar	528	78	131	291	500	62	96	173	331	58	87	158	303	.8	2	.....	3	.....	5	1	10	2-9
Vicksburg	240	60	82	99	241	57	75	82	214	54	68	75	197	1.7	1	1	1	.....	2	3	4	1-3
Wayne	369	71	116	148	335	70	115	144	330	68	110	134	312	.8	2	.....	3	.....	4	1	9	1-4
West Branch	511	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whitehall	523	60	76	285	421	48	59	242	349	46	53	223	322	.8	1	1	1	.....	6	2	8	1-4
Williamston	347	115	52	198	365	110	48	190	348	90	33	131	254	.8	2	1	.....	.....	6	2	8	1-5
Yale	402	65	108	176	349	54	95	138	287	50	92	129	271	.8	1	.....	2	.....	3	1	6	1-5

* Where a blank occurs the item was not reported.
† Superintendent included.

*TABLE XVII.—CONTINUED.

Miscellaneous statistics of city schools as reported by Superintendents for the school year 1899–1900.

Cities and villages having a population over 4,000, census 1894.	Number of special teachers.	Number of graduates.	Av. number pupils to each teacher.				Number of non-resident pupils.				Average age of class.			Number studying—				Does school give special instruction in—			Has school kindergarten below primary grade?	Portion of time in first primary devoted to kindergarten work.	Number of U. S. flags.
			High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	Graduated.	Promoted to high school.	Promoted to grammar dpt.	Latin.	Greek.	French.	German.	Vocal music?	Drawing?	Penmanship?			
Adrian	2	32	33	34	38	36	60	9	1	70	17.9	14.2	10.3	150	.....	30	65	yes	yes	no	yes	1-4	2
Albion	2	50	32	39	33	35	46	2	.....	48	18	.....	.....	39	.....	.....	28	yes	yes	no	no	1-4	5
Alpena	1	....	23	33	46	39	.....	.....	.....	.....	18	15.2	11.4	36	.....	.....	22	.....	.....	.....	no	1-10	8
Ann Arbor	2	75	25	40	33	32	210	7	10	227	18	14.1	10.5	301	23	51	111	yes	yes	no	no	1-10	7
Battle Creek	2	42	25	33	41	37	54	19	10	83	.....	.....	.....	231	24	28	47	yes	yes	.....	no	.....	9
Bay City	3	40	26	31	38	33	36	24	6	66	19	14.7	11.7	225	11	110	72	yes	yes	yes	no	.....	11
Benton Harbor	1	17	31	50	53	49	15	5	4	24	.....	12	8.5	38	4	.....	27	yes	yes	yes	no	1-6	3
Big Rapids	.....	25	29	38	36	34	.....	.....	.....	15	18	.....	.....	30	.....	.....	35	no	no	no	yes	1-2	4
Cadillac	1	23	29	41	46	33	.....	.....	.....	.....	17	.....	.....	70	5	.....	30	yes	yes	no	yes	all	3
Calumet	3	28	24	62	40	42	19	4	.....	23	19	14.5	.....	50	.....	.....	45	yes	yes	no	yes	1-2	9
Charlotte	1	18	26	34	31	31	38	15	5	58	18	14.2	10.3	73	12	.....	37	yes	no	no	yes	1-3	6
Cheboygan	.....	9	30	40	51	44	12	5	1	18	18	.....	.....	24	.....	.....	.....	no	no	no	no	.....	6
Coldwater	.....	15	23	32	39	33	27	7	5	39	18.5	15.2	11.3	55	4	.....	16	yes	yes	yes	yes	.....	4
Detroit	7	186	21	30	40	35	.....	.....	.....	100	.....	.....	.....	997	88	331	508	yes	yes	yes	yes	.....	68
Escanaba	.....	3	23	39	43	39	.....	.....	.....	.....	18	14	10	60	.....	.....	20	no	no	no	no	1-3	3
Flint	2	52	29	40	38	36	76	16	4	96	18	14	10	88	15	27	36	.....	.....	.....	.....	.....	.....
Grand Haven	1	27	24	45	39	38	16	3	3	22	18.3	14 8	10.8	82	.....	.....	37	yes	yes	yes	yes	.....	4
Grand Rapids	2	124	32	34	35	35	69	22	12	103	18.5	14.9	11.3	451	21	60	305	yes	yes	no	yes	.....	34
Hillsdale	1	43	40	37	42	42	57	25	1	83	18	13.3	9.3	92	.....	.....	60	yes	no	no	no	1-12	1
Holland	1	27	45	45	45	45	10	6	6	22	18.2	15.1	10.3	66	.....	.....	.....	yes	yes	yes	no	1-2	5
Ionia	.....	23	21	26	33	28	61	54	24	139	.....	.....	.....	71	5	8	32	no	yes	yes	yes	1-2	4
Iron Mountain	.....	17	31	37	49	43	5	.....	.....	5	18	14	10	31	.....	.....	11	no	no	no	no	1-4	6
Ironwood	2	15	24	43	35	36	.....	.....	.....	.....	18	13	10	25	.....	.....	18	yes	yes	no	yes	.....	7
Ishpeming	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jackson	2	32	31	33	41	37	29	10	3	42	19	15	11	274	15	12	82	yes	yes	no	yes	.....	10
Kalamazoo	1	25	25	42	40	38	.....	.....	.....	52	.....	.....	.....	.....	.....	.....	.....	yes	yes	no	yes	.....	10
Lansing	2	63	30	35	33	33	23	19	9	51	18	.....	.....	211	19	.....	188	yes	yes	.....	.....	.....	13
Ludington	.....	23	24	32	39	36	26	.....	.....	26	19.1	14.4	10.9	85	10	.....	46	yes	yes	yes	no	1-3	5
Manistee	2	50	22	34	39	35	20	12	14	46	18	14	10	80	.....	22	41	yes	yes	no	no	.....	6
Marquette	2	13	25	48	41	41	.....	.....	.....	.....	.....	.....	.....	83	.....	17	30	yes	yes	no	no	.....	5

Marshall	2	15	26	34	32	31	38	3	1	42	18.9	14.5	10.7	130	14	.....	41	yes	yes	no	no	1-6	2
Menominee	4	27	21	43	54	45	7	.....	.....	7	.....	.....	.....	112	5	.....	35	yes	yes	no	yes	.....	8
Monroe	1	18	28	40	30	32	52	21	3	76	.....	.....	.....	62	5	.....	23	no	no	yes	no	1-3	4
Mt. Clemens	1	10	22	36	40	35	24	9	6	39	.....	.....	.....	41	.....	.....	41	yes	yes	no	yes	1-2	4
Muskegon	3	37	31	35	37	35	7	3	2	12	18	14	10	164	8	17	52	yes	yes	no	yes	.....	8
Negaunee	2	22	21	36	46	39	.....	.....	.....	.....	18	13.5	.....	23	.....	7	14	yes	yes	no	yes	1-5	....
Niles	1	23	32	45	41	39	30	11	4	45	18.5	.....	.....	99	.....	.....	47	yes	no	no	no	.....	5
Owosso	1	35	28	54	43	43	22	6	2	30	17.5	.....	.....	85	.....	.....	45	yes	yes	no	no	1-2	4
Pontiac	1	13	29	38	37	37	52	18	8	78	19.3	15.7	11.1	125	10	18	17	yes	yes	.....	no	.....	....
Port Huron	.....	29	24	52	40	33	8	6	2	16	18	13	10	125	10	60	75	no	yes	yes	no	1-2	14
Saginaw	3	....	27	22	40	30	.....	.....	.....	.....	.....	.....	.....	311	13	81	525	yes	yes	yes	no	.....	13
Saginaw, W. S.	2	28	25	35	39	36	11	8	6	25	18	.....	.....	115	8	67	1,153	yes	yes	yes	no	1-5	10
St. Joseph	2	27	29	41	45	40	11	4	1	16	18.4	15.1	11.4	73	8	.....	39	yes	yes	yes	yes	.....	3
Sault Ste. Marie	2	16	27	44	45	41	.....	.....	.....	.....	18.3	14.1	9.2	40	.....	18	22	yes	yes	yes	no	1-2	6
Traverse City	2	31	32	44	36	39	.....	.....	.....	87	19	.....	.....	55	.....	.....	50	yes	no	yes	no	1-2	5
West Bay City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wyandotte	.....	13	23	50	71	53	.....	.....	.....	10	18	.....	.....	20	.....	.....	25	no	no	no	yes	1-2	3
Ypsilanti	2	44	30	37	39	36	50	8	1	59	19.1	15	11.6	107	14	6	76	yes	yes	no	no	1-3	4

• Where a blank occurs the item was not reported.

*TABLE XVII.—CONTINUED.

Cities and villages having a population between 1,000 and 4,000, census 1894.	Number of special teachers.	Number of graduates.	Av. number pupils to each teacher.				Number of non-resident pupils.				Average age of class.			Number studying—				Does school give special instruction in—			Has school kindergarten below primary grade?	Portion of time in first primary devoted to kindergarten work.	Number of U. S. flags.
			High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	Graduated.	Promoted to high school.	Promoted to grammar department.	Latin.	Greek.	French.	German.	Vocal music?	Drawing?	Penmanship?			
Algonac		8	30	58	78	56	6			6	18	10.6				12					no		1
Allegan	1	13	30	38	33	33				28	18.6			65			28	yes	no	no	no	1-5	
Alma	2	18	24	45	40	36	40			40	18			35			37	yes	no	no	yes	1-6	1
Atlantic Mine			17	40	43	38	2	3	13	18							6	no	no	yes	no		2
Au Sable		6	23	46	82	54		1	3	4	17.5			25			28	no	no	yes	no		2
Bad Axe		11	35	35	49	41	26	5	4	35	18	15	9	50			21	no	no	no	yes	1-2	2
Baraga		2	9	38	47	41					18							no	yes	yes	no		5
Belding		16	33	37	44	39				11	19.5			37			27	no	no	no	yes		1
Bessemer	1	9	20	30	57	41					18	12.5	8.3	30			18	yes	no	no	yes		4
Blissfield		8	32	38	68	46	27			27	17	14	10	8				no	no	no	no		
Buchanan		11	27	35	37	33				42	16.5	14	10	37			18	no	no	no	no	1-6	2
Caro		25	29	38	54	41	37	3	4	44	18.2	13.5	9	42			28				no	1-4	2
Carson City		7	20	29	34	34	14	12	1	27	17.1	15	12	19				no	yes	yes	no	1-2	1
Cassopolis		10	22	32	38	31	23	7	2	32	18.6	13.4	9.8	32			2	yes				1-4	
Cedar Springs		4	23	28	55	33	26	3	1	30	19	15	11	10			5	no	no	no	no		1
Champion	1	5	13	35	57	39								27		4	4	yes	yes	yes	yes		1
Charlevoix		5	30	38	45	39	13	4		17	18	14.7	10	21			12	no	no	no	no	1-3	1
Chelsea		12	22	25	32	26	31	5	5	41	17	14	9.7	39	2		12	yes	no	no	no	1-8	1
Chesaning		13	23	29	47	32	22	5		27	17	13	9	15			16	yes	no	no	no	1-2	1
Clare		4	27	46	42	42	6	1		7	18	14.5	10.5	30			15	no	yes	yes	no	1-3	1
Clinton		5	48	40	34	38				15	18			14		7		no	yes	yes	no	1-6	1
Coleman	1	1	13	47	63	49			1	1				5				no	no	yes	no	1-15	1
Constantine	1	24	25	34	43	32	35			35	18.1	13	9	49			27	yes	yes	yes	yes	1-6	1
Corunna		9	20	28	35	28	26	8	2	36	18	14	11	30			14	no	no	no	no	1-4	1
Crystal Falls		2	17	38	50	43					18	14	10	14			5	yes	yes	no	yes		5
Decatur		14	26	27	45	35				36	19	14	8	30			19	yes	no	yes	yes		1
Dowagiac	3	15	27	40	41	38	48	13	7	68	18			62	11		28	yes	yes	yes	yes		4
Dundee		12	38	34	38	35	13	1	3	17	18	14.6	10.5	26				no	no	no		1-6	1
East Lake		9		40	108	95				3		13	8.8					no	no	no	no	1-2	1
East Tawas		8	30	60	38	40					16	12									yes	1-4	1
Eaton Rapids		22	26	35	35	30					17.6	14	10	43			20				no		2

Elk Rapids	.....	7	22	32	34	30	8	2	1	11	18	.....	10.5	9	.....	.....	.....	no	no	no	no	1-4	1
Essexville	.....	.....	.....	40	40	40	.....	3	1	4	.....	14	10	.....	.....	.....	.....	no	no	no	no	1-3	1
Evart	.....	11	26	37	42	38	.....	.....	.....	.....	17	13	8	15	.....	.....	.....	no	no	no	yes	.....	1
Fenton	1	12	29	42	37	36	17	5	.....	22	18	14	10	37	.....	.....	38	yes	yes	yes	no	1-4	3
Flushing	1	6	49	42	46	37	17	7	4	28	19	.....	.....	14	.....	.....	14	no	yes	yes	yes	.....	1
Frankfort	.....	5	31	31	34	32	5	3	.....	8	17	14	11	.....	.....	.....	.....	no	no	no	no	1-3	1
Fremont	.....	.....	11	14	102	34	3	1	.....	4	18	15	12	.....	.....	.....	.....	no	no	yes	yes	.....	1
Gladstone	.....	5	15	41	52	45	2	4	.....	6	17.5	14.9	.....	21	.....	4	.....	no	no	no	yes	.....	.....
Grand Ledge, No. 9	.....	.....	.....	.....	.....	.....	36	4	2	42	19	15	10	16	.....	.....	11	no	no	no	no	1-6	1
Greenville	2	17	32	58	44	45	41	11	1	53	18	15.5	10.5	50	2	16	28	yes	yes	yes	no	1-5	4
Hancock	.....	14	15	43	40	35	20	6	12	38	18.4	.....	.....	25	.....	.....	14	no	no	no	no	.....	6
Harbor Beach	.....	3	15	40	46	36	3	3	1	7	18	.....	.....	13	.....	.....	.....	no	no	no	no	1-3	....
Hartford	.....	5	50	33	53	46	22	2	.....	24	19	14	11	11	.....	.....	.....	no	no	yes	no	.....	1
Hastings	.....	22	24	35	37	32	57	2	1	60	19.4	15	11	75	.....	.....	31	no	yes	yes	no	.....	4
Holly	.....	3	30	47	47	41	.....	.....	.....	50	19	.....	.....	39	.....	.....	22	no	no	no	no	.....	1
Homer	1	16	22	14	75	32	15	2	.....	17	18	.....	.....	16	.....	.....	.....	no	yes	yes	no	1-4	1
Houghton, No. 1	.....	.....	14	20	31	25	8	1	1	10	18	15	12.5	28	.....	3	9	no	no	no	no	1-5	1
Howard City	1	15	20	31	45	35	17	3	1	21	16.8	12.7	8	.....	.....	.....	.....	yes	.....	.....	yes	.....	1
Howell	1	29	25	37	29	28	54	2	.....	56	18	.....	.....	62	10	.....	48	yes	no	no	no	.....	3
Hudson	1	17	18	33	47	31	30	6	3	39	17.5	13.5	8	34	.....	.....	22	yes	yes	no	yes	1-5	1
Imlay City	.....	.....	35	48	52	45	30	.....	.....	30	18	14	10	23	.....	.....	17	no	no	yes	.....	.....	1
Ithaca	1	20	32	47	45	42	34	13	4	51	18	13	9	64	.....	.....	29	yes	no	no	yes	.....	1
Jonesville	.5	7	26	39	53	35	14	5	1	20	19	14	9	17	.....	.....	14	yes	yes	yes	no	1-8	1
Kalkaska	.....	3	28	37	50	36	6	4	2	12	19	13	8	9	.....	.....	.....	no	no	no	yes	1-3	1
Lake City	.....	10	20	30	45	37	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	yes	yes	no	.....	1
Lake Linden	1	17	27	22	32	28	3	.....	1	4	17.5	13	10	71	5	28	28	no	yes	no	yes	1-3	3
Lakeview	.5	2	40	60	60	55	26	.....	.....	26	19	.....	.....	6	.....	.....	.....	no	yes	yes	yes	1-2	1
Lapeer	.....	.....	15	37	37	30	33	3	.....	36	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	yes	1-2	1
Leslie	.....	7	39	35	43	37	30	3	1	34	19	.....	.....	46	.....	.....	.....	no	no	yes	no	.....	1
Lowell	.....	14	31	36	39	35	14	7	.....	21	17	13	9	16	.....	.....	18	no	yes	yes	yes	1-3	1
Mancelona	.....	3	20	36	43	33	.....	1	.....	1	18	13.6	11.3	.....	.....	.....	.....	no	no	yes	yes	.....	2
Manchester	.....	8	37	31	39	36	32	2	1	35	18	13	8.5	11	.....	.....	18	.....	.....	.....	.....	.....	1
Manistique	1	4	14	37	46	38	2	1	8	11	18	13	11	18	.....	.....	1	yes	.....	.....	no	1-2	3
Marcellus	.....	.....	20	32	52	33	.....	.....	.....	.....	.....	.....	.....	37	.....	.....	14	.....	.....	.....	.....	.....	1
Marine City	.....	4	17	41	50	43	4	7	6	17	18.5	15	.....	17	.....	.....	10	no	no	no	no	.....	3
Mason	.....	16	28	31	34	30	64	6	2	72	18.5	14.6	10.5	49	.....	.....	16	.....	.....	.....	no	1-3	2
Midland	.....	13	22	56	56	48	9	.....	3	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Milford	.....	9	28	43	30	33	20	6	2	28	18.4	14.5	9.2	35	.....	.....	.....	no	no	no	no	1-4	1
Montague	1	9	19	39	25	26	4	3	4	11	16.7	13.3	8.5	7	.....	.....	9	yes	no	no	yes	1-2	2
Morenci	.....	6	20	36	41	32	15	1	.....	16	18	14	9	36	.....	.....	15	no	yes	yes	no	.....	1
Mt. Pleasant	1	14	21	34	31	29	11	6	4	21	18	14	12	50	.....	.....	9	yes	no	no	yes	1-3	3
Nashville	.....	12	20	30	45	25	.....	.....	.....	52	18	.....	.....	10	.....	.....	14	no	no	no	yes	1-2	1
Newaygo	1	5	18	34	75	42	.....	.....	.....	7	17	14	11	.....	.....	.....	.....	yes	no	no	no	1-2	1
Newberry	.....	6	22	35	62	38	.....	.....	.....	.....	17	13	8	.....	.....	15	52	no	no	no	yes	.....	2

• Where a blank occurs the item was not reported.

*TABLE XVII.—CONCLUDED.

Cities and villages having a population between 1,000 and 4,000, census 1894.	Number of special teachers.	Number of graduates.	Av. number pupils to each teacher.				Number of non-resident pupils.				Average age of class.			Number studying—				Does school give special instruction in—			Has school kindergarten below primary grade?	Portion of time in first primary devoted to kindergarten work.	Number of U. S. flags.
			High school department.	Grammar department.	Primary department.	Whole school.	High school department.	Grammar department.	Primary department.	Whole school.	Graduated.	Promoted to high school.	Promoted to grammar department.	Latin.	Greek.	French.	German.	Vocal music?	Drawing?	Penmanship?			
Northville	.....	9	22	35	45	35	18	9	4	31	19	14.5	11	26	.....	.....	67	yes	no	no	no	.....	1
Norway	.....	15	27	50	95	65	6	.....	.....	6	18	.....	.....	20	.....	.....	.....	yes	no	yes	no	1-3	3
Ontonagon	.....	6	15	23	65	43	.....	.....	.....	.....	17	14	11	.....	.....	.....	.....	no	no	no	no	.....	1
Oscoda	.....	...	19	55	53	44	.....	.....	.....	.....	16	12	8	.....	.....	.....	.....	.....	.....	.....	no	1-3	2
Otsego	1	35	31	20	54	33	.....	.....	.....	31	.....	.....	.....	40	.....	.....	25	yes	no	no	no	.....	1
Ovid	.....	10	26	44	36	35	27	4	2	33	18	14	6	38	.....	.....	5	no	no	no	no	1-5	1
Oxford	1	7	19	34	45	31	17	.....	.....	17	18	14	8	3	.....	.....	.....	yes	no	yes	no	.....	1
Paw Paw	1	15	27	45	36	34	45	6	2	53	18	.....	.....	40	.....	.....	30	yes	.....	.....	yes	.....	1
Pentwater	.....	4	13	44	48	35	3	5	4	12	18.2	14	11	18	.....	.....	.....	no	no	no	yes	.....	1
Petoskey	1	8	20	32	41	36	4	13	.....	17	18.2	.....	.....	32	.....	.....	25	yes	no	no	no	1-3	2
Pinconning	.....	4	28	60	67	50	7	1	2	10	16	13	9	3	.....	.....	.....	no	no	no	no	.....	1
Plainwell	1	22	23	32	35	31	61	9	2	72	18	13	10	55	.....	.....	23	yes	yes	yes	no	1-4	1
Plymouth	1	5	27	33	43	36	30	3	2	35	18	14.3	10.5	21	.....	.....	6	yes	no	yes	yes	.....	1
Portland	.....	23	29	39	49	39	41	.....	.....	41	18.1	14.1	10.1	32	.....	.....	25	yes	yes	no	no	1-4	2
Quincy	.....	7	33	44	23	31	23	5	1	29	18	.....	.....	11	.....	.....	5	no	yes	yes	no	1-2	1
Reading	.....	8	29	40	50	39	24	7	4	35	18	14	10	30	.....	.....	.....	no	no	no	no	1-6	1
Reed City	.....	6	21	31	41	34	9	7	4	20	17	14	10.5	31	.....	.....	26	no	no	no	yes	.....	2
Republic	.....	...	9	47	58	43	.....	.....	.....	.....	.....	14	10	15	.....	....	9	no	no	no	no	1-5	1
Richmond	.....	2	21	33	79	37	18	11	1	30	18	14	9.5	3	.....	.....	.....	no	no	no	yes	1-6	1
Rochester	.....	5	30	38	48	40	7	6	.....	13	18	14	10	11	.....	.....	4	no	no	no	yes	1-3	1
Romeo	1	12	31	49	31	36	31	1	1	33	17.8	13.3	9.9	50	5	4	23	no	yes	no	no	1-4	1
Sebewaing	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Haven	.....	6	35	44	41	40	65	22	9	96	18	13.7	10	66	.....	.....	15	.....	yes	yes	no	1-4	2
St. Clair	1	11	24	57	44	42	13	.....	.....	13	19.2	14.3	9.6	30	.....	.....	51	yes	no	no	no	1-3	1
St. Ignace	.....	9	13	53	48	42	.....	.....	.....	6	16.2	13.5	.....	4	.....	.....	.....	no	no	.....	yes	1-5	3
St. Johns	.....	22	32	34	40	35	56	4	1	61	19	14	.....	55	.....	.....	45	yes	yes	yes	no	.....	3
St. Louis	2	14	32	35	54	36	26	5	.....	31	.....	.....	.....	40	.....	.....	10	no	no	yes	yes	.....	....
Stanton	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Sturgis	2	19	26	29	41	32	11	6	2	19	18	14	10	27	.....	.....	.....	yes	yes	no	yes	1-4	....
Tawas City	.....	...	15	45	59	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	no	no	yes	no	1-5	1
Tecumseh	1	12	27	41	38	34	51	3	.....	54	19	15	11	83	.....	.....	32	yes	no	no	no	1-8	....

Three Rivers	1	19	25	33	28	29	17	1	1	19	18.5	.....	.....	58	.....	2	23	yes	yes	no	yes	1-5	2
Union City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vassar	.....	6	22	32	35	30	20	3	1	24	17.1	14	11.4	33	.....	.....	13	no	yes	yes	yes	1-4	3
Vicksburg	1	11	19	37	41	30	18	3	1	22	18	14	10	15	.....	.....	11	yes	no	no	no	3-8	1
Wayne	1	12	25	38	36	33	28	8	1	37	17.4	13.9	9.5	41	.....	.....	15	yes	no	no	no	1-5	1
West Branch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whitehall	.....	7	24	30	40	34	.....	.....	.....	2	17	.....	.....	10	.....	.....	.....	no	no	no	no	1-4	1
Williamston	.....	18	36	48	31	34	65	4	3	72	18	13	11	22	.....	.....	19	no	no	no	yes	1-2	1
Yale	.....	2	27	47	46	41	17	3	2	22	16.5	.....	.....	.....	.....	.....	.....	no	yes	yes	no	.....	1

* Where a blank occurs the item was not reported.

TABLE XVIII.

Financial statistics of city and village schools as reported by superintendents for the year 1899-1900.

Cities and villages having a population over 4,000, census 1894.	Amount paid superintendent.	Amount paid regular teachers.	Amount paid special teachers.	Total amount paid for instruction.	Cost of education per capita in—											
					High school.			Grammar department.			Primary department.			Whole school.		
					Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.
Adrian	$1,500 00	$15,961 75	$1,300 00	$18,761 75	$21 51	$6 20	$27 71	$13 55	$6 20	$19 75	$10 66	$6 20	$16 86	$13 46	$6 20	$19 66
Albion	1,350 00	9,240 00	471 00	11,061 00	17 46	5 03	22 49	11 45	5 03	16 48	11 72	5 03	16 75	13 01	5 03	18 04
Alpena	1,500 00	16,858 00	.....	18,358 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 85	3 46	15 31
Ann Arbor	2,300 00	35,415 24	950 00	38,665 24	36 11	5 02	41 13	.....	.....	.....	.....	.....	.....	18 09	5 02	23 11
Battle Creek	1,900 00	33,266 26	1,175 00	36,341 26	23 00	11 04	34 04	12 00	11 04	23 04	10 00	11 04	21 04	13 03	11 04	24 07
Bay City	2,000 00	50,118 30	1,500 00	53,618 30	30 00	6 51	36 51	14 37	6 51	20 88	11 49	6 51	18 00	14 57	6 51	21 08
Benton Harbor	1,600 00	10,575 00	450 00	12,625 00	14 96	4 37	19 33	8 53	4 37	12 90	6 72	4 37	11 09	8 54	4 37	12 91
Big Rapids	1,200 00	8,620 00	.....	9,820 00	18 42	5 63	24 05	11 00	5 63	16 63	11 59	5 63	17 22	11 59	5 63	17 22
Cadillac	1,558 33	13,634 70	.....	15,193 03	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 75	4 36	16 11
Calumet	3,000 00	51,949 68	3,000 00	57,949 68	.....	.....	.....	.....	.....	.....	.....	.....	.....	14 78	3 89	18 67
Charlotte	1,300 00	11,676 50	250 00	13,226 50	22 33	5 64	27 97	14 28	5 64	19 92	14 20	5 64	19 84	16 38	5 64	22 01
Cheboygan	1,100 00	9,091 25	.....	10,191 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	9 71	4 41	14 12
Coldwater	1,200 00	10,492 00	.....	11,692 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 64	6 04	19 68
Detroit	4,000 00	607,905 03	6,950 00	618,855 03	45 32	5 80	51 12	21 71	5 80	27 51	.....	.....	.....	19 90	5 80	25 70
Escanaba	1,400 00	14,220 00	.....	15,620 00	41 22	4 41	45 63	12 24	4 41	16 65	10 95	4 41	15 36	13 32	4 41	17 73
Flint	1,600 00	26,434 05	1,150 00	29,184 05	23 55	8 07	31 62	13 30	8 07	21 37	9 45	8 07	17 52	14 27	8 07	22 34
Grand Haven	1,300 00	10,290 00	500 00	12,090 00	17 96	3 54	21 50	9 37	3 54	12 91	10 62	3 54	14 16	10 71	3 54	14 25
Grand Rapids	3,000 00	205,610 22	2,000 00	210,610 22	27 74	6 04	33 78	18 50	6 04	24 54	17 41	6 04	23 45	16 32	6 04	22 36
Hillsdale	1,350 00	7,302 50	380 00	9,032 50	13 47	3 70	17 17	10 14	3 70	13 84	11 06	3 70	14 76	11 40	3 70	15 10
Holland	1,100 00	11,951 39	400 51	13,451 90	.....	.....	.....	.....	.....	.....	.....	.....	.....	8 55	3 85	12 40
Ionia	1,350 00	11,275 61	.....	12,625 61	.....	.....	.....	.....	.....	.....	.....	.....	.....	15 70	6 22	21 92
Iron Mountain	2,000 00	21,869 82	.....	23,869 82	24 48	4 43	28 91	12 77	4 43	17 20	9 18	4 43	13 61	11 56	4 43	15 99
Ironwood	2,000 00	22,019 13	1,100 00	25,119 13	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 94	7 73	20 67
Ishpeming	2,000 00	28,857 50	600 00	31,457 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jackson	2,200 00	43,554 54	1,600 00	47,354 54	28 28	8 03	36 31	15 98	8 03	24 01	11 86	8 03	19 89	14 74	8 03	22 77
Kalamazoo	2,000 00	44,817 52	1,000 00	47,817 52	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 13	6 75	17 88
Lansing	1,400 00	33,476 47	1,200 00	36,076 47	20 04	7 20	27 24	13 47	7 20	20 67	12 06	7 20	19 26	14 27	7 20	21 47
Ludington	1,170 00	16,406 84	.....	17,576 84	26 90	3 32	30 22	13 58	3 32	16 90	10 09	3 32	13 41	11 88	3 32	15 20
Manistee	1,500 00	33,957 98	938 75	36,396 73	31 04	6 61	37 65	13 38	6 61	19 99	10 40	6 61	17 01	12 79	6 61	19 40
Marquette	1,700 00	20,599 25	1,175 00	23,474 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	15 36	7 40	22 76
Marshall	1,500 00	8,886 00	565 00	10,951 00	24 71	4 70	29 41	13 54	4 70	18 24	12 02	4 70	16 72	14 54	4 70	19 29
Menominee	2,200 00	25,316 52	2,055 00	29,571 52	26 00	5 50	31 50	10 01	5 50	15 51	8 22	5 50	13 72	11 97	5 50	17 47
Monroe	1,200 00	6,460 00	400 00	8,060 00	25 00	5 63	30 63	11 00	5 63	16 63	9 80	5 63	15 43	13 40	5 63	19 09
Mt. Clemens	1,500 00	10,437 50	500 00	12,437 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 42	5 26	18 68

Muskegon	2,500 00	48,309 80	2,132 50	52,942 30	24 49	13 12	37 61	11 65	13 12	24 77	10 84	13 12	23 96	13 88	13 12	27 00
Negaunee	1,500 00	12,440 00	550 00	14,490 00	31 94	5 69	37 63	11 65	5 69	17 34	10 51	5 69	16 20	12 38	5 69	18 07
Niles	1,540 00	9,020 00	250 00	10,810 00	18 68	4 16	22 84	10 34	4 16	14 50	12 06	4 16	16 22	12 01	4 16	16 17
Owosso	1,500 00	17,501 52	500 00	19,501 52	18 80	4 81	23 61	7 28	4 81	12 09	10 15	4 81	14 96	10 40	4 81	15 21
Pontiac	1,500 00	14,411 52	450 00	16,361 52	23 95	11 38	35 33	11 43	11 38	22 88	10 88	11 38	22 26	13 38	11 38	24 76
Port Huron	1,700 00	30,719 10	.....	32,419 10	24 00	4 89	28 89	10 50	4 89	15 39	6 80	4 89	11 69	11 69	4 89	16 58
Saginaw	2,000 00	67,102 24	2,300 00	71,402 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	16 84	6 11	22 95
Saginaw, W. S.	2,100 00	34,348 24	1,300 00	37,748 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 24	8 39	21 63
St. Joseph	1,400 00	10,181 00	360 00	11,941 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 74	4 77	16 51
Sault Ste. Marie	1,660 00	17,950 60	950 00	20,560 00	21 60	5 81	27 41	8 53	5 81	14 34	13 78	5 81	19 59	13 25	5 81	19 06
Traverse City	1,400 00	17,290 50	945 00	19,635 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 92	4 11	16 03
West Bay City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wyandotte	1,150 00	6,667 50	.....	7,817 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	8 40	6 41	14 81
Ypsilanti	1,800 00	11,789 37	700 00	14,289 37	22 61	4 98	27 59	13 28	4 98	18 26	12 04	4 98	17 02	14 90	4 98	19 88
Cities and villages having a population between 1,000 and 4,000, census of 1894.																
Algonac	720 00	1,730 00	.....	2,450 00	17 43	2 36	19 79	5 27	2 36	7 63	4 05	2 36	6 41	6 25	2 36	8 61
Allegan	1,300 00	6,087 70	.....	7,387 70	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 21	4 88	17 09
Alma	950 00	3,350 00	700 00	5,000 00	8 97	1 24	10 21	.....	.....	.....	.....	.....	.....	12 43	1 24	13 67
Atlantic Mine	1,450 00	4,857 50	.....	6,307 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	15 13	4 75	19 88
Au Sable	675 00	2,151 75	.....	2,826 75	.....	.....	.....	.....	.....	.....	.....	.....	.....	6 51	1 25	7 76
Bad Axe	800 00	3,085 00	.....	3,885 00	16 20	5 11	21 31	10 76	5 11	15 87	7 86	5 11	12 97	8 55	5 11	13 66
Baraga	1,200 00	3,000 00	.....	4,200 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 92	8 84	21 76
Belding	850 00	4,580 00	.....	5,430 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	9 84	11 36	21 20
Bessemer	1,200 00	7,436 75	.....	8,636 75	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 84	16 58	30 42
Blissfield	700 00	950 00	.....	1,650 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	8 96	2 45	11 41
Buchanan	1,000 00	4,056 22	.....	5,056 22	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 03	7 27	20 30
Caro	1,000 00	3,850 00	.....	4,850 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 34	4 11	14 45
Carson City	800 50	1,813 50	.....	2,614 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 25	4 45	14 70
Cassopolis	900 00	2,920 00	.....	3,820 00	27 90	4 88	32 78	11 70	4 88	16 58	9 02	4 88	13 90	13 79	4 88	18 67
Cedar Springs	800 00	1,947 00	.....	2,747 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 94	2 60	14 54
Champion	1,000 00	4,727 90	.....	5,727 90	.....	.....	.....	.....	.....	.....	.....	.....	.....	14 72	10 23	24 95
Charlevoix	800 00	3,895 00	.....	4,695 00	15 46	2 63	18 09	9 73	2 63	12 36	7 43	2 63	10 06	9 52	2 63	12 15
Chelsea	1,000 00	3,980 00	.....	4,980 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	15 80	5 43	21 23
Cheboygan	790 00	2,322 50	.....	3,112 50	21 83	3 42	25 25	11 31	3 42	14 73	7 45	3 42	10 87	12 20	3 42	15 62
Clare	750 00	2,550 00	.....	3,300 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	8 59	8 69	17 28
Clinton	800 00	1,539 00	.....	2,339 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 17	1 06	11 23
Coleman	650 00	1,850 00	.....	2,500 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	7 33	2 29	9 62
Constantine	1,050 00	2,675 00	.....	3,725 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	14 96	6 01	20 97
Corunna	1,000 00	3,350 00	.....	4,350 00	7 25	4 80	12 05	5 17	4 80	9 97	3 10	4 80	7 90	15 31	4 80	20 11
Crystal Falls	1,300 00	8,156 39	.....	9,456 39	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 59	8 65	22 24
Decatur	900 00	2,301 00	.....	3,201 00	8 80	4 29	13 09	9 80	4 29	14 09	6 80	4 29	11 09	11 47	4 29	15 76
Dowagiac	1,300 00	8,685 00	930 00	10,915 00	21 43	6 68	28 11	11 70	6 68	18 38	11 12	6 68	17 80	13 42	6 68	20 10
Dundee	850 00	2,300 00	.....	3,150 00	24 25	80	25 05	11 70	80	12 50	9 20	80	10 00	10 03	80	10 83
Eastlake	675 00	1,730 00	.....	2,405 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 07	2 97	8 04
East Tawas	830 00	2,800 00	.....	3,630 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	8 96	1 72	10 68
Eaton Rapids	1,000 00	4,707 50	.....	5,707 50	17 80	3 91	21 71	13 25	3 91	17 16	12 40	3 91	16 31	13 37	3 91	17 28
Elk Rapids	1,200 00	3,817 38	.....	5,017 38	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 70	14 04	27 74

*TABLE XVIII.—CONCLUDED.

Cities and villages having a population between 1,000 and 4,000, census of 1894.	Amount paid superintendent.	Amount paid regular teachers.	Amount paid special teachers.	Total amount paid for instruction.	Cost of education per capita in—											
					High school.			Grammar department.			Primary department.			Whole school.		
					Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.
Essexville	$700 00	$1,200 00	.....	$1,900 00	.....	.....	.....	$13 60	$10 75	$24 35	$10 00	$10 75	$20 75	$11 80	$10 75	$22 55
Evart	800 00	3,759 75	.....	4,559 75	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 77	3 68	14 45
Fenton	1,000 00	4,900 00	$200 00	6,100 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 97	3 35	16 32
Flushing	650 00	1,600 00	.....	2,250 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	9 95	2 71	12 66
Frankfort	900 00	3,555 00	.....	4,455 00	$11 59	$2 95	$14 54	13 55	2 95	16 50	10 87	2 95	13 82	13 10	2 95	16 05
Fremont	700 00	2,200 00	.....	2,900 00	24 42	4 32	28 74	23 21	4 32	27 53	5 85	4 32	10 17	10 51	4 32	14 83
Gladstone	900 00	6,560 00	.....	7,460 00	34 37	5 68	40 05	8 40	5 68	14 08	8 90	5 68	14 58	12 86	5 68	18 54
Grand Ledge, No. 9	900 00	2,175 00	.....	3,075 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 63	3 12	13 75
Greenville	1,200 00	6,950 00	450 00	8,600 00	17 00	3 45	20 45	8 45	3 45	11 90	10 00	3 45	13 45	11 18	3 45	14 63
Hancock	1,800 00	10,670 00	.....	12,470 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	16 63	8 10	24 73
Harbor Beach	700 00	2,330 00	.....	3,030 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 34	8 53	18 87
Hartford	800 00	1,748 25	.....	2,548 25	12 54	2 82	15 36	10 13	2 82	12 95	6 52	2 82	9 34	9 20	2 82	12 02
Hastings	1,000 00	6,127 55	.....	7,127 55	16 04	5 54	21 58	11 50	5 54	17 04	11 42	5 54	16 96	11 82	5 54	17 36
Holly	1,000 00	2,450 00	.....	3,450 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 78	3 18	13 96
Homer	750 00	2,225 00	160 00	3,135 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 29	3 52	15 81
Houghton, No. 1	1,500 00	9,072 00	.....	10,572 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	24 13	12 01	36 14
Howard City	650 00	2,313 25	.....	2,963 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 43	2 58	13 01
Howell	1,200 00	5,286 00	280 00	6,766 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 09	6 22	19 31
Hudson	1,100 00	3,213 64	500 00	4,813 64	17 10	8 16	25 26	12 70	8 16	20 86	14 90	8 16	23 06	13 91	8 16	22 07
Imlay City	900 00	2,100 00	.....	3,000 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	8 21	2 45	10 66
Ithaca	1,100 00	3,447 25	325 00	4,872 25	18 62	2 85	21 47	7 97	2 85	10 82	8 76	2 85	11 61	10 50	2 85	13 35
Jonesville	800 00	1,980 00	350 00	3,130 00	13 59	4 01	17 60	12 95	4 01	16 96	10 00	4 01	14 01	12 57	4 01	16 58
Kalkaska	800 00	1,890 00	.....	2,690 00	16 00	4 09	20 09	12 00	4 09	16 09	9 00	4 09	13 09	12 28	4 09	16 37
Lake City	450 00	1,200 00	.....	1,650 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	7 50	2 18	9 68
Lake Linden	1,800 00	14,208 25	350 00	16,358 25	29 02	8 10	37 12	25 09	8 10	33 19	16 31	8 10	24 41	20 70	8 10	28 80
Lakeview	750 00	1,551 03	170 62	2,471 65	12 01	1 69	13 70	7 67	1 69	9 36	5 03	1 69	6 72	6 88	1 69	8 57
Lapeer	1,250 00	6,467 50	.....	7,717 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 01	9 98	22 99
Leslie	800 00	1,850 00	.....	2,650 00	18 67	93	19 60	13 39	93	14 32	11 95	93	12 88	11 22	93	12 15
Lowell	900 00	4,120 00	.....	5,020 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 74	4 02	14 76
Mancelona	765 00	2,655 00	.....	3,420 00	.....	.....	.....	7 28	4 06	11 34	5 64	4 06	9 70	10 23	4 06	14 29
Manchester	950 00	2,500 00	.....	3,450 00	17 90	2 35	20 25	9 90	2 35	12 25	8 14	2 35	10 49	10 30	2 35	12 65
Manistique	1,200 00	8,302 50	450 00	9,952 50	44 04	8 72	52 76	14 18	8 72	22 90	10 12	8 72	18 84	11 74	8 72	20 46
Marcellus	700 00	1,980 00	.....	2,680 00	22 56	9 60	32 16	10 07	9 60	19 67	6 38	9 60	15 98	11 65	9 60	21 25
Marine City	1,000 00	4,260 00	.....	5,260 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 11	6 06	16 17
Mason	1,000 00	3,650 00	.....	4,650 00	19 38	3 85	23 23	12 09	3 85	15 94	12 39	3 85	16 24	11 19	3 85	15 04

Midland	900 00	3,775 00	.....	4,675 00	18 09	4 31	22 40	7 36	4 31	11 67	6 59	4 31	10 90	8 90	4 31	13 21
Milford	950 00	1,805 00	.....	2,755 00	22 30	2 17	24 47	7 70	2 17	9 87	9 80	2 17	11 97	11 93	2 17	14 10
Montague	1,000 00	1,988 88	100 00	3,088 88	31 19	9 13	40 32	8 05	9 13	17 18	6 20	9 13	15 33	12 76	9 13	21 89
Morenci	765 00	1,584 00	.....	2,349 00	21 38	2 47	23 85	7 57	2 47	10 04	7 17	2 47	9 64	10 48	2 47	12 95
Mount Pleasant	1,500 00	6,486 50	250 00	8,236 50	17 75	9 90	27 65	11 04	9 90	20 94	11 39	9 90	21 29	12 53	9 90	22 43
Nashville	850 00	2,819 50	.....	3,669 50	26 00	4 15	30 15	9 00	4 15	13 15	8 25	4 15	12 40	14 39	4 15	18 54
Newaygo	760 00	1,704 00	.....	2,464 00	22 00	2 34	24 34	14 00	2 34	16 34	4 00	2 34	6 34	9 77	2 34	12 11
Newberry	1,050 00	2,650 00	.....	3,700 00	38 00	4 25	42 25	13 00	4 25	17 25	7 00	4 25	11 25	15 74	4 25	19 99
Northville	850 00	3,250 00	.....	4,100 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 61	3 71	15 32
Norway	1,300 00	5,780 00	.....	7,080 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	7 95	3 60	11 55
Ontonagon	900 00	4,185 00	.....	5,085 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 97	17 55	30 52
Oscoda	450 00	1,710 00	.....	2,160 00	20 40	1 30	21 70	7 18	1 30	8 48	5 92	1 30	7 22	7 01	1 30	8 31
Otsego	1,000 00	4,050 00	108 00	5,158 00	19 23	3 00	22 23	16 30	3 00	19 30	6 60	3 00	9 60	11 83	3 00	14 83
Ovid	1,000 00	2,950 00	.....	3,950 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 74	4 88	17 62
Oxford	800 00	1,955 00	136 75	2,893 75	11 25	3 64	14 89	.....	.....	.....	.....	.....	.....	13 20	3 64	16 84
Paw Paw	1,200 00	2,820 00	100 00	4,120 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 37	4 81	18 18
Pentwater	880 00	2,475 00	.....	3,355 00	37 92	3 02	40 94	6 17	3 02	9 19	5 02	3 02	8 04	10 48	3 02	13 50
Petoskey	1,300 00	7,842 49	237 50	9,379 99	20 18	2 55	22 73	11 73	2 55	14 28	10 56	2 55	13 11	11 94	2 55	14 49
Pinconning	600 00	1,350 00	.....	1,950 00	16 96	60	17 56	6 67	60	7 27	4 48	60	5 08	7 80	60	8 40
Plainwell	1,200 00	2,629 00	142 50	4,041 50	15 50	3 60	19 10	13 25	3 60	16 85	9 00	3 60	12 60	12 83	3 60	16 43
Plymouth	900 00	3,026 25	.....	3,926 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 08	5 43	17 51
Portland	1,000 00	3,800 00	.....	4,800 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 07	4 89	14 96
Quincy	875 00	2,167 50	.....	3,042 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 31	10 90	23 21
Reading	800 00	1,677 00	.....	2,477 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 40	5 70	16 10
Reed City	1,150 00	4,755 00	.....	5,905 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 43	2 91	15 34
Republic	1,200 00	5,250 00	.....	6,450 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 45	3 37	15 82
Richmond	650 00	1,260 00	.....	1,910 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 15	2 72	12 87
Rochester	900 00	1,500 00	.....	2,400 00	24 40	2 30	26 70	7 86	2 30	10 16	6 25	2 30	8 55	9 91	2 30	12 21
Romeo	1,350 00	2,550 00	250 00	4,150 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 13	4 49	16 62
Sebewaing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Haven	1,100 00	5,068 00	.....	6,168 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	9 04	4 22	13 26
St. Clair	1,000 00	4,250 00	350 00	5,600 00	18 78	7 99	26 77	9 01	7 99	17 00	8 36	7 99	16 35	10 70	7 99	18 69
St. Ignace	450 00	3,240 00	.....	3,690 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	8 66	18 18	26 84
St. Johns	1,100 00	7,810 00	.....	8,910 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 80	6 60	19 40
St. Louis	1,000 00	3,550 00	700 00	5,250 00	15 55	4 56	20 11	15 70	4 56	20 26	6 30	4 56	10 86	10 40	4 56	14 96
Stanton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sturgis	1,100 00	3,402 00	324 00	4,826 00	21 44	4 18	25 62	12 96	4 18	17 14	8 85	4 18	13 03	12 50	4 18	16 68
Tawas City	600 00	1,942 50	.....	2,542 50	23 71	2 20	25 91	6 83	2 20	9 03	6 78	2 20	8 98	8 53	2 20	10 73
Tecumseh	1,200 00	4,525 00	350 00	6,075 00	18 37	4 43	22 80	11 78	4 43	16 21	10 90	4 43	15 33	11 87	4 43	16 30
Three Rivers	1,200 00	8,336 25	343 75	9,880 00	20 40	4 83	25 23	12 77	4 83	17 60	14 69	4 83	19 52	15 15	4 83	19 98
Union City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vassar	1,000 00	3,180 00	.....	4,180 00	27 37	3 67	31 04	9 92	3 67	13 59	8 85	3 67	12 52	12 62	3 67	16 29
Vicksburg	750 00	1,965 00	98 00	2,813 00	21 80	4 12	25 92	11 75	4 12	15 87	7 70	4 12	11 82	13 14	4 12	17 26
Wayne	850 00	3,000 00	160 00	4,010 00	17 44	1 80	19 24	11 30	1 80	13 10	10 75	1 80	12 55	12 15	1 80	13 95
West Branch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whitehall	900 00	2,428 50	.....	3,328 50	20 62	3 43	24 05	5 30	3 43	8 73	5 30	3 43	8 73	9 53	3 43	12 96
Williamston	1,000 00	2,865 00	.....	3,865 00	16 00	8 14	24 14	10 40	8 14	18 54	8 33	8 14	16 47	11 10	8 14	19 24
Yale	750 00	1,760 00	.....	2,510 00	16 29	3 37	19 66	6 95	3 37	10 32	6 58	3 37	9 95	8 74	3 37	12 11

* Where a blank occurs in this table the item was not reported.

TABLE XIX.

Special report of the superintendents of city schools and villages having a population over 1,200.

Incorporated cities.	No. of teachers in schools, not including the supt. and special teachers.	No. of special teachers employed.	Are all regular teachers holders of legal certificates of qualification?	No. holding certificates granted or endorsed by state board of education.	No. holding state normal certificates granted under provisions of act 194, laws of 1889.	No. holding university certificates granted according to act 144, laws of 1891.	No. holding college certificates granted according to act 136, laws of 1893.	No. holding county first grade certificates.	No. holding county second grade certificates.	No. holding county third grade certificates, class B.	No. holding county third grade certificates, class A.	No. holding county special certificates.	No. holding city certificates granted according to sec. 13, act 66, laws of 1895.	No. who have been teaching in the same school one year or less.	No. who have taught in the same school between 2 and 5 years.	No. between 5 and 10 years.	No. between 10 and 15 years.	No. between 15 and 20 years.	No. between 20 and 25 years.	No. over 25 years.	Greatest number of years' service by any one teacher.
Totals	3,645	106	.....	42	521	228	136	41	173	45	24	.....	1,950	.....	.....	.....	.....	.....	.....	.....	.....
Adrian	39	2	yes	.....	4	3	.....	.....	.....	.....	.....	.....	32	9	7	8	7	5	1	2	30
Albion	23	2	yes	1	13	1	5	.....	.....	.....	.....	.....	3	11	8	1	2	1	.....	.....	17
Alpena	40	1	yes	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	5	10	14	7	4	.....	.....	19
Ann Arbor	65	6	yes	.....	3	22	1	.....	.....	.....	.....	.....	39	13	18	21	10	5	4	2	30
Au Sable	8	.....	yes	.....	1	.....	1	.....	3	2	1	.....	.....	5	3	.....	.....	.....	.....	.....	3
Battle Creek	76	1	yes	.....	4	4	.....	.....	29	3	2	.....	34	20	21	21	10	1	.....	3	28
Bay City	117	4	.....	.....	2	8	.....	.....	.....	.....	.....	.....	107	19	31	26	19	13	8	1	27
Belding	14	.....	yes	.....	4	.....	1	.....	.....	.....	.....	.....	9	3	6	5	.....	.....	.....	.....	9
Benton Harbor	30	1	yes	.....	16	.....	.....	.....	.....	.....	.....	.....	14	6	24	.....	.....	.....	.....	.....	.....
Bessemer	20	1	yes	.....	8	.....	1	.....	8	.....	3	.....	.....	20	1	.....	.....	.....	.....	.....	.....
Big Rapids	24	1	yes	.....	3	2	.....	.....	2	.....	.....	.....	17	2	4	16	1	.....	2	.....	22
Cadillac	33	1	yes	.....	17	2	.....	.....	.....	.....	.....	.....	14	12	9	10	1	1	.....	.....	16
Charlotte	22	1	yes	.....	8	3	.....	.....	.....	.....	.....	.....	11	1	8	7	7	.....	1	.....	23
Cheboygan	26	.....	yes	3	3	.....	.....	1	12	4	.....	.....	3	11	3	9	3	.....	.....	.....	15
Clare	8	.....	yes	.....	1	.....	1	.....	5	.....	1	.....	.....	3	.....	.....	.....	.....	.....	.....	1
Coldwater	26	.....	yes	.....	8	4	1	.....	3	.....	.....	.....	10	10	7	6	2	.....	1	.....	23
Corunna	9	2	yes	.....	.....	1	.....	.....	.....	.....	.....	.....	8	.....	3	4	2	.....	.....	.....	13
Crystal Falls	17	2	yes	1	7	.....	.....	.....	5	4	.....	.....	.....	9	8	3	.....	.....	.....	.....	8
Detroit	953	5	yes	.....	83	64	80	24	.....	.....	.....	.....	702	129	237	270	158	76	40	48	43
Dowagiac	21	2	yes	.....	1	2	2	.....	.....	.....	.....	.....	16	.....	.....	10	6	3	2	.....	17
East Tawas	9	.....	yes	.....	3	.....	1	.....	4	1	.....	.....	.....	.....	5	1	.....	.....	.....	.....	6
Eaton Rapids	13	1	yes	1	2	1	1	.....	1	.....	7	.....	.....	3	.....	.....	.....	.....	.....	.....	.....
Escanaba	31	.....	yes	13	1	2	.....	.....	.....	.....	.....	.....	15	17	9	5	.....	.....	.....	.....	9
Flint	59	2	yes	.....	.....	.....	.....	.....	.....	.....	.....	.....	59	8	22	15	11	.....	3	.....	28
Gladstone	15	.....	yes	.....	1	2	.....	.....	.....	.....	.....	.....	12	3	8	4	.....	.....	.....	.....	9

Gladwin	4	.....	yes	1	.....	.....	.....	.....	3	1	.....	.....	5	2	3	.....	.....	.....	.....	.....	5
Grand Haven	28	1	yes	.....	6	2	.....	.....	2	1	.....	.....	17	3	15	4	5	.....	.....	1	26
Grand Ledge	6	.....	yes	.....	1	.....	1	.....	3	1	.....	.....	.....	1	2	3	.....	.....	.....	.....	10
Grand Rapids	372	10	yes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	33	113	123	47	22	5	6	33
Greenville	18	2	yes	2	2	1	.....	1	.....	.....	.....	.....	12	2	10	1	5	.....	.....	.....	13
Harrison	3	.....	yes	.....	.....	.....	.....	.....	1	2	.....	.....	.....	3	1	.....	.....	.....	.....	.....	2
Hastings	17	1	yes	.....	2	1	1	1	2	.....	.....	.....	10	4	3	5	1	1	.....	.....	18
Hillsdale	19	1	yes	.....	4	.....	3	.....	.....	.....	.....	.....	12	7	5	5	3	.....	.....	.....	14
Holland	37	1	yes	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	18	9	8	2	1	.....	.....	17
Hudson	9	1	yes	.....	2	1	.....	.....	.....	.....	.....	.....	6	3	1	5	.....	.....	.....	1	26
Ionia	28	1	yes	2	6	1	1	.....	6	1	1	.....	10	4	11	3	5	4	.....	1	36
Iron Mountain	50	.....	yes	.....	16	.....	.....	.....	.....	.....	.....	.....	34	18	23	6	3	1	.....	.....	17
Ironwood	56	2	yes	2	7	2	.....	.....	.....	.....	.....	.....	45	17	20	17	2	.....	.....	.....	14
Ishpeming	57	2	yes	6	8	2	5	.....	.....	.....	.....	.....	36	21	19	10	2	3	2	.....	22
Jackson	85	2	yes	.....	27	5	1	1	1	.....	.....	.....	50	12	32	25	11	1	3	1	26
Kalamazoo	103	3	yes	.....	18	21	4	.....	.....	.....	.....	.....	60	19	34	26	10	2	3	2	27
Lansing	73	2	yes	1	11	4	1	2	7	1	.....	.....	46	12	35	16	8	4	.....	.....	19
Lapeer	19	.....	yes	.....	8	2	.....	.....	2	.....	.....	.....	7	4	8	4	2	1	.....	.....	16
Ludington	43	1	yes	.....	7	1	.. ..	.....	.....	.....	.....	.....	35	6	15	10	8	3	1	.....	22
Mackinac Island	3	.....	yes	.....	.....	.....	.....	1	2	.....	.....	.....	.....	1	1	2	.....	.....	.....	.....	12
Manistee	73	2	yes	.....	11	4	.....	.....	.....	.....	.....	.....	58	10	38	20	5	1	.....	.....	19
Marine City	13	.....	yes	.....	4	.....	1	.....	.....	.....	.....	.....	8	4	5	4	.....	.....	.....	.....	6
Marquette	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marshall	23	1	yes	1	2	4	1	.....	.....	3	.....	.....	12	7	6	5	1	2	1	1	30
Mason	10	1	yes	.....	5	.....	1	1	3	.....	.....	.....	.....	2	8	.....	.....	.....	.....	.....	4
Menominee	56	5	yes	.....	13	2	.....	.....	.....	.....	.....	.....	41	18	30	11	2	.....	.....	.....	12
Midland	12	.....	yes	.....	2	.....	.....	1	1	.....	.....	.....	8	2	5	5	.....	.....	.....	.....	9
Monroe	18	1	yes	1	.....	3	.....	.....	.....	.....	.....	.....	14	3	5	4	2	.....	2	.....	21
Mt. Clemens	28	1	yes	.....	7	1	1	.....	.....	.....	.....	.....	19	5	11	7	3	.....	.....	.....	13
Mt. Pleasant	23	2	yes	.....	14	...	.....	.....	.....	.....	.....	.....	9	8	15	.....	.....	.....	.....	.....	5
Muskegon	.....	.....	yes	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	1	.....	.....	.....	10
Negaunee	33	1	yes	1	6	2	3	3	11	.....	.....	.....	7	8	12	6	2	.....	1	.....	20
Niles	22	1	yes	1	5	2	.....	.....	4	.....	.....	.....	10	3	9	6	2	1	1	.....	21
North Muskegon	2	.....	yes	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	1	.....	.....	.....	10
Norway	14	.....	yes	1	2	1	4	.....	.....	2	.....	.....	4	3	3	1	1	.....	.....	.....	11
Owosso	40	2	yes	.....	7	8	.....	.....	.....	.....	.....	.....	25	5	15	17	4	.....	.....	.....	15
Petoskey	23	1	yes	.....	6	4	.....	.....	3	.....	.....	.....	10	7	7	5	1	.....	.....	.....	12
Pontiac	33	1	yes	.....	14	5	.....	.....	7	.....	.....	.....	7	14	17	5	2	2	1	1	29
Pt. Huron	74	.....	yes	.....	6	10	.....	.....	4	6	4	.....	44	2	4	55	9	6	.....	.....	.....
Saginaw	125	5	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saginaw, W. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	51	29	15	11	5	2	32
Sault Ste. Marie	41	2	yes	1	19	2	3	.....	.....	.....	.....	.....	16	14	16	9	2	1	1	.....	24
St. Clair	13	1	yes	.....	5	.....	.....	.....	.....	.....	.....	.....	8	6	5	.....	2	.....	.....	.....	15
St. Ignace	9	1	yes	1	3	.....	.....	.....	2	.....	.....	.....	3	1	5	2	1	.....	.....	.....	14
St. Joseph	26	2	yes	.....	4	1	1	.....	7	6	.....	.....	7	6	13	7	.....	.....	.....	.....	9

TABLE XIX.—CONTINUED.

Incorporated cities.	No. of teachers in schools, not including the supt. and special teachers.	No. of special teachers employed.	Are all regular teachers holders of legal certificates of qualification?	No. holding certificates granted or endorsed by state board of education.	No. holding state normal certificates granted under provisions of act 194, laws of 1889.	No. holding university certificates granted according to act 144, laws of 1891.	No. holding college certificates granted according to act 136, laws of 1893.	No. holding county first grade certificates.	No. holding county second grade certificates.	No. holding county third grade certificate, class B.	No. holding county third grade certificate, class A.	No. holding county special certificates.	No. holding city certificates granted according to sec. 13, act 66, laws of 1895.	No. who have been teaching in the same school one year or less.	No. who have taught in the same school between 2 and 5 years.	No. between 5 and 10 years.	No. between 10 and 15 years.	No. between 15 and 20 years.	No. between 20 and 25 years.	No. over 25 years.	(Greatest number of years' service by any one teacher.
St. Louis	11	2	yes	1		2							8	5	10	1	1				10
Stanton	8		yes						6				1	1	4	2	1				13
Sturgis	11	2	yes		2		1	1	5	1				5	6	2	1				34
Tawas City	6		yes	1					3	1	1			3	1	1	1			1	5
Three Rivers	24	2	yes		6	4	1	2	5	2	3		1	15	6						10
Traverse City	47	2	yes		29		2						16	16	28	2	3				13
West Bay City	53		yes		1	4	1						47		53	0	3	2			15
Wyandotte	20		yes		12		2	1	5					4	10		1				16
Ypsilanti	26	3	yes		18	1	2		2	3				8	16	1	1				13

TABLE XIX.—CONTINUED.

Villages having a population over 1,200, census 1894.	No. of teachers in schools, not including the supt. and special teachers.	No. of special teachers employed.	Are all regular teachers holders of legal certificates of qualification?	No. holding certificates granted or endorsed by state board of education.	No. holding state normal certificates granted under provisions of act 194, laws of 1893.	No. holding university certificates granted according to act 144, laws of 1891.	No. holding college certificates granted according to act 136, laws of 1883.	No. holding county first grade certificates.	No. holding county second grade certificates.	No. holding county third grade certificates, class B.	No. holding county third grade certificates, class A.	No. holding special certificates.	No. holding city certificates granted according to sec. 13, act 66, laws of 1895.	No. who have been teaching in the same school one year or less.	No. who have taught in the same school between 2 and 5 years.	No. between 5 and 10 years.	No. between 10 and 15 years.	No. between 15 and 20 years.	No. between 20 and 25 years.	No. over 25 years.	(Greatest number of years' service by any one teacher.
Totals	780	37	.....	23	170	33	20	37	238	64	43	8	119	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allegan	15	1	yes	.....	2	1	.....	3	5	4	.....	.....	.....	1	6	.....	11	2	.....	.....	.....	9
Alma	10	2	yes	.....	2	.....	1	1	5	1	1	.....	.....	5	3	.....	2	.....	1	.....	.....	17
Bad Axe	10	.....	yes	.....	4	.....	.....	.....	3	2	1	.....	.....	1	4	.....	2	.....	.....	.....	.....	7
Harsens	9	.....	yes	.....	1	.....	.....	.....	4	3	1	.....	.....	3	2	.....	3	1	.....	.....	.....	12
Hillsdale	4	.....	yes	.....	.....	.....	1	.....	2	1	.....	.....	.....	1	3	.....	.....	.....	.....	.....	.....	5
Buchanan	11	1	yes	2	4	1	.....	.....	3	.....	1	.....	.....	1	7	.....	1	2	.....	.....	.....	13
Caro	11	.....	yes	.....	3	.....	1	2	4	1	1	1	.....	3	5	.....	2	1	.....	.....	.....	23
Carson City	6	.....	yes	1	.....	.....	.....	1	3	.....	.....	.....	.....	6	5	.....	.....	.....	.....	1	.....	6
Casopolis	8	.....	yes	1	4	.....	.....	.....	.....	1	1	.....	1	4	2	.....	.....	.....	.....	.....	.....	.....
Cedar Springs	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	48	.....	26	6	1	.....	.....	16
Charlevoix	12	.....	yes	.....	7	.....	1	4	4	1	.....	.....	.....	9	3	.....	1	1	.....	.....	.....	6
Chelsea	11	1	yes	.....	1	.....	.....	2	5	2	1	.....	.....	2	6	.....	1	1	1	1	.....	28
Chesaning	7	.....	yes	.....	2	.....	.....	.....	4	.....	1	.....	.....	1	4	.....	1	1	.....	.....	.....	26
Clinton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	3	.....	1	.....	.....	.....	.....	6
Coleman	7	.....	yes	.....	1	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Constantine	7	.....	yes	1	2	.....	.....	.....	3	1	1	.....	.....	2	5	.....	1	.....	.....	.....	.....	6
Decatur	7	.....	yes	.....	2	.....	1	.....	2	1	1	.....	.....	5	4	.....	.....	.....	.....	.....	.....	19
Dundee	8	.....	yes	.....	2	.....	.....	.....	3	3	.....	.....	.....	2	6	.....	1	.....	1	.....	.....	5
Essexville	4	.....	yes	1	.....	.....	.....	.....	3	1	.....	.....	.....	2	1	.....	2	.....	.....	.....	.....	9
Evart	11	.....	yes	1	8	.....	1	.....	.....	1	.....	.....	.....	1	2	.....	.....	.....	.....	.....	.....	3
Fenton	12	1	yes	.....	.....	.....	.....	1	2	1	.....	.....	8	10	6	.....	3	.....	.....	.....	.....	11
Flushing	10	1	yes	.....	4	.....	.....	1	3	1	1	.....	.....	3	5	.....	.....	.....	.....	.....	.....	4
Frankfort	7	.....	yes	.....	2	.....	.....	1	2	1	1	.....	.....	6	1	.....	.....	.....	.....	.....	.....	3
Fremont	25	.....	yes	.....	12	4	.....	1	4	4	.....	.....	.....	9	10	.....	2	.....	.....	.....	.....	12
Hancock	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harbor Beach	6	.....	yes	.....	.....	1	.....	.....	3	1	1	.....	.....	2	4	.....	.....	.....	.....	.....	.....	5
Hartford	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE XIX.—CONCLUDED.

Villages having a population over 1,200, census 1894.	No. of teachers in schools, not including the supt. and special teachers.	No. of special teachers employed.	Are all regular teachers holders of legal certificates of qualification?	No. holding certificates granted or endorsed by state board of education.	No. holding state normal certificates granted under provisions of act 194, laws of 1889.	No. holding university certificates granted according to act 144, laws of 1891.	No. holding college certificates granted according to act 136, laws of 1893.	No. holding county first grade certificates.	No. holding county second grade certificates.	No. holding county third grade certificates, class B.	No. holding county third grade certificates, class A.	No. holding county special certificates.	No. holding city certificates granted according to sec. 13, act 66, laws of 1895.	No. who have been teaching in the same school one year or less.	No. who have taught in the same school between 2 and 5 years.	No. between 5 and 10 years.	No. between 10 and 15 years.	No. between 15 and 20 years.	No. between 20 and 25 years.	No. over 25 years.	Greatest number of years' service by any one teacher.
Holly	7	.....	no	.....	1	.....	.....	2	3	.....	.....	.....	.....	2	2	2	1	.....	.....	.....	23
Homer	7	2	yes	.....	.....	.....	.....	2	3	.....	2	.....	.....	1	4	.....	.....	2	.....	.....	18
Houghton	17	2	yes	.....	10	3	.....	1	2	1	.....	.....	.....	11	9	2	1	.....	.....	.....	11
Howard City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Howell	16	1	yes	.....	5	3	1	.....	5	2	.....	.....	.....	5	7	3	1	.....	.....	.....	14
Imlay City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ithaca	9	2	yes	1	3	.....	1	.....	3	1	.....	.....	.....	6	2	1	.....	.....	.....	.....	8
Jonesville	6	.....	yes	.....	2	.....	1	.....	3	.....	.....	.....	.....	3	1	1	.....	1	.....	.....	15
Kalkaska	7	1	yes	.....	1	1	2	.....	3	.....	.....	.....	.....	4	.....	3	.....	.....	.....	.....	8
Lake City	5	.....	yes	.....	1	.....	.....	.....	3	.....	1	.....	.....	1	3	1	.....	.....	.....	.....	6
Lake Linden	27	2	yes	1	4	1	.....	7	12	.....	2	.....	.....	1	3	14	6	3	.....	.....	17
Lakeview	6	.....	yes	.....	.....	.....	.....	1	3	.....	2	.....	.....	6	4	.....	.....	.....	.....	.....	4
Laurium	103	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	106	26	48	25	6	1	.....	.....	16
Lowell	12	.....	yes	.....	1	2	.....	2	5	2	.....	.....	.....	.....	9	3	.....	.....	.....	.....	7
Mancelona	9	.....	yes	.....	1	.....	.....	1	3	.....	4	.....	.....	2	7	.....	.....	.....	.....	.....	6
Manchester	8	.....	yes	.....	4	.....	.....	1	3	.....	.....	.....	.....	.....	3	5	1	.....	.....	.....	14
Manistique	21	1	yes	.....	6	1	.....	.....	10	2	2	.....	.....	3	15	4	1	.....	.....	.....	14
Marcellus	7	.....	yes	.....	3	1	.....	.....	.....	2	1	.....	.....	.....	1	2	.....	.....	.....	.....	7
Milford	6	.....	yes	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	1	4	1	.....	.....	.....	.....	7
Montague	6	2	yes	.....	.....	.....	1	.....	3	2	.....	.....	.....	4	4	.....	.....	.....	.....	.....	3
Morenci	6	.....	yes	.....	2	.....	.....	.....	4	.....	.....	.....	.....	.....	3	1	1	.....	.....	.....	11
Nashville	8	.....	yes	1	2	.....	1	.....	4	.....	.....	.....	.....	3	5	.....	.....	.....	.....	.....	3
Newaygo	6	.....	yes	.....	2	.....	.....	.....	3	.....	1	.....	.....	4	3	3	.....	.....	.....	.....	14
Newberry	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Northville	9	1	yes	.....	2	2	.....	.....	1	2	2	.....	.....	3	5	2	.....	.....	.....	.....	9
Ontonagon	15	.....	yes	.....	.....	.....	.....	.....	5	5	1	3	1	8	6	.....	1	.....	.....	.....	12
Oscoda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Otsego	13	1	yes	2	7	.....	1	.....	3	.....	.....	.....	.....	14	10	2	.....	.....	.....	.....	13
Ovid	8	.....	yes	.....	4	.....	.....	.....	1	.....	.....	.....	3	3	2	2	1	.....	.....	.....	11
Oxford	7	1	yes	3	4	.....	.....	.....	.....	.....	.....	.....	.....	3	3	.....	.....	.....	.....	.....	3

Paw Paw	8	1	yes		2		1			4		1				5	2	1					6
Pentwater	6	1	yes	1				1	1		2	1				3	3	1					10
Pinconning	4		yes						1	3						2	3						4
Plainwell	8	1	yes		4					2	1	1				2	4	1	1				14
Plymouth	8	2	yes				2		1	5						4	4				1	1	26
Portland	12		yes	1	3					5	3					4	6	2					3
Quincy	7		yes		2					2	2	1				5	3	1	1	1			18
Reading																							
Reed City	12		yes		5		1	1		5						9	2	1					5
Richmond	4		yes						1	2	1					1	4						11
Rochester	6		yes	1	2					3						2	4	1					6
Romeo	8	1	yes	2	1		1			2	2					3	4	1					8
Sebewaing	3		yes							2		1				1	1	2					8
South Haven	16		yes		4		2			7		2	1			8	3	3	1	1			18
St. Johns	18	1	yes	2			1		1	9	3		2			4	11	2	1				14
Tecumseh	12	2	yes		2		1	2		5		2					7	3	1	1			17
Union City	10	1	*		3					6		1				5	4	1	1	1			19
Vassar	11		yes	1	2					5		3				5	2	4					9
Wayne	9	1	yes		7		1	1								5	4						3
West Branch																							
Whitehall	9		yes		2				1	5	1					3	5	1					6
Williamston	9		yes		3		2		1	3						1	5	1	1	1			21
Yale																							

* Only 9.

TABLE XX.

Receipts and expenditures at teachers' institutes for the calendar year 1900.

Counties.	Location.	Date.	Receipts.		Disbursements.			
			County fund.	State fund.	Compensation of instructors.	Expenses of instructors.	Other expenses.	Totals.
Totals			$9,036 04	$2,646 10	$7,376 94	$2,911 27	$1,393 93	$11,682 14
Alcona	Harrisville	April 2-6	$33 00	$57 30	$60 00	$25 30	$5 00	$90 30
Alger (see Luce)								
Allegan	Allegan	July 16–August 10	402 00		330 11	47 39	24 50	402 00
Alpena	Alpena	August 6-15	59 00	85 00	96 00	41 25	6 75	144 00
Antrim	Central Lake	July 23-27	9 50	50 00	34 02	17 48	8 00	59 50
Arenac	Standish	March 8-10	18 00	49 20	43 00	21 45	2 75	67 20
Baraga	Baraga	October 18-20	10 50	100 00	52 25	52 75	5 50	110 50
Barry	Hastings	August 6-15	162 56		96 00	43 72	22 84	162 56
Bay	West Bay City	August 1-15	209 75		156 00	37 55	16 20	209 75
Benzie	Benzonia	March 8-10	21 00	50 00	47 00	19 75	4 25	71 00
Branch	Sherwood	July 16–August 3	125 75		89 17	19 78	16 80	125 75
Calhoun	Battle Creek	August 8-17	241 35		150 00	52 45	38 90	241 35
	Marshall	November 22-24	128 54		74 00	19 07	35 47	128 54
Cass	Cassopolis	August 6-15	121 76		80 00	25 56	16 20	121 76
Charlevoix	Charlevoix	August 6-15	66 00	100 00	96 00	55 00	15 00	166 00
Cheboygan	Cheboygan	July 30–August 3	75 50	36 15	70 00	38 15	3 50	111 65
	Cheboygan	October 25-27		58 82	30 00	28 82		58 82
Clare	Harrison	August 6-10	64 50	40 00	53 66	38 10	12 74	104 50
Clinton	St. Johns	August 13-15	96 06		70 00	21 81	4 25	96 06
Crawford	Grayling	March 26-30	38 50	75 00	60 00	44 95	8 55	113 50
Dickinson	Iron Mountain	October 4-6	53 49	73 66	80 00	43 95	3 20	127 15
Eaton	Eaton Rapids	February 15-17	84 78		64 00	6 10	14 68	84 78
	Charlotte	October 11-13	105 00		65 00	21 70	18 30	105 00
Emmet	Petoskey	August 27-31	66 00	40 00	46 18	56 55	3 27	106 00
Genesee	Flint	February 1 3	118 96		83 00	15 71	20 25	118 96
	Flint	August 20-24	107 48		60 00	32 88	14 60	107 48
Gladwin	Gladwin	July 23–August 18	132 00	100 00	170 14	61 86		232 00
Grand Traverse	Traverse City	August 6-15	101 50	100 00	121 00	76 50	4 00	201 50
Gratiot	Ithaca	July 30–August 10	181 50		112 13	57 18	12 19	181 50
Hillsdale	Hillsdale	April 2-6	162 02		85 00	33 42	43 60	162 02
Houghton	Houghton	October 18-20	238 90	74 45	95 00	145 85	72 50	313 35
Huron	Bad Axe	November 1-3	103 54		60 00	29 04	14 50	103 54

Ingham	Mason	July 9-27	234 13		165 00	35 00	34 13	234 13
Ionia	Ionia	July 30-August 15	198 00		167 00	21 00	10 00	198 00
Iosco	Tawas City	August 1-7	29 50	50 00	55 00	20 00	4 50	79 50
Iron	Crystal Falls	October 8-10	18 00	97 70	75 00	38 20	2 50	115 70
Isabella	Mt. Pleasant	August 6-10	65 00		60 00		5 00	65 00
Jackson	Jackson	March 1-3	173 90		85 00	20 30	68 60	173 90
Kalamazoo	Kalamazoo	December 14-15	114 00		55 00	26 00	33 00	114 00
Kalkaska	Kalkaska	July 30-August 10	67 50	50 00	68 78	34 97	13 75	117 50
Kent	Grand Rapids	May 9	162 06		100 00	46 81	15 25	162 06
	Grand Rapids	August 20-24	168 08		95 00	47 55	25 53	168 08
Keweenaw (with Houghton)								
Lake	Luther	July 9-20	31 50	100 00	80 20	24 80	26 50	131 50
Lapeer	Lapeer	January 25-27	94 81		65 00	20 01	9 80	94 81
	Lapeer	August 29-31	175 76		115 00	42 00	18 76	175 76
Leelanau	Sutton's Bay	July 23-August 3	54 50	100 00	109 87	31 38	13 25	154 50
Lenawee	Adrian	July 23-August 3	247 12		170 00	32 87	44 25	247 12
Livingston	Howell	August 6-15	175 44		96 00	45 94	33 50	175 44
Luce and Alger	Newberry	October 8-12	10 00	100 00	72 70	37 30		110 00
Mackinac	St. Ignace	August 6-15	29 00	100 00	88 00	34 86	6 14	129 00
Macomb	Mt. Clemens	March 1-3	97 12		60 00	21 91	15 21	97 12
	Romeo	August 20-24	123 00		60 00	38 58	24 42	123 00
Mason	Ludington	July 30-August 15	75 00	55 00	130 00			130 00
Mecosta	Big Rapids	November 29-Dec. 1	154 32		75 00	49 87	29 45	154 32
Menominee	Menominee	July 30-August 15	102 00	65 00	128 27	36 30	2 43	167 00
Midland	Midland	September 28-30	71 00	55 86	80 00	26 91	19 95	126 86
Missaukee	Lake City	August 27-31	45 50	60 00	50 48	46 38	8 64	105 50
Monroe	Dundee	July 30-August 3	99 60		60 00	24 60	15 00	99 60
Montmorency	Hillman	July 30-August 11	26 00	100 00	91 13	33 94	93	126 00
Muskegon	Whitehall	August 6-15	139 00		96 00	40 00	3 00	139 00
Newaygo	Newaygo	August 30-September 1	99 63		60 00	28 13	11 50	99 63
Oakland	Pontiac	July 30-August 10	237 39		150 00	43 50	43 89	237 39
Oceana	Shelby	August 6-15	62 61	65 00	74 46	48 15	5 00	127 61
Ogemaw	West Branch	June 11-15	29 50	45 00	57 50	16 50	50	74 50
Osceola	Evart	March 16-17	33 00	22 65	22 75	20 55	12 35	55 65
Oscoda	Mio	January 8-12	8 00	79 10	60 00	23 00	4 10	87 10
Otsego	Gaylord	July 9-25	53 00	90 00	66 14	34 30	42 56	143 00
Presque Isle	Rogers	January 1-5	37 50	66 21	60 00	38 71	5 00	103 71
Roscommon	Roscommon	July 30-August 8	12 50	100 00	74 00	38 23	27	112 50
Saginaw	Saginaw	February 1-3	117 68		85 00	23 95	8 73	117 68
	Saginaw	October 19-20	230 63		150 00	76 13	4 50	230 63
St. Clair	Port Huron	August 6-15	176 95		118 00	39 95	19 00	176 95
	Port Huron	November 30	20 00		20 00			20 00
Schoolcraft	Manistique	January 2-5	27 00	100 00	60 00	53 25	13 75	127 00
Shiawassee	Corunna	August 29-31	126 92		75 00	36 67	15 25	126 92

TABLE XX.—CONCLUDED.

Counties.	Location.	Date.	Receipts.		Disbursements.			
			County fund.	State fund.	Compensation of instructors.	Expenses of instructors.	Other expenses.	Totals.
Tuscola	Vassar	November 15-17	$120 49		$80 00	$21 94	$18 55	$120 49
Van Buren	South Haven	July 16-August 3	321 36		210 00	38 61	72 75	321 36
Washtenaw	Ann Arbor	July 16-August 3	204 50		150 00	36 95	17 55	204 50
Wayne	Detroit	April 3	144 00		120 00		24 00	144 00
	Wayne	July 22-August 15	555 60		306 00	127 60	122 00	555 60
Wexford	Cadillac	August 6 15	98 50	$55 00	96 00	56 60	90	153 50

TABLE XXI.

Local committees, conductors and instructors at teachers' institutes for the calendar year 1900.

Counties.	Term.	Local committees.	Conductors.	Instructors.	Instructors.	Instructors.
Alcona	5 days	L. Frederick	F. A. Barbour	W. H. Sanborn.		
Alger (see Luce).						
Allegan	20 days	J. E. McDonald	H. W. McIntosh	C. F. Bacon	Adella Jackson	J. E. McDonald.
Alpena	8 days	E. L. Little	W. A. Morse	S. O. Wood.		
Antrim	5 days	J. R. Jenkins	Robert Barbour	J. R. Jenkins.		
Arenac	*3 days	F. D. Noggle	A. Hamlin Smith	Julia Inglis	W. A. Howe.	
Baraga	*3 days	M. J. McKanna	George W. Loomis	C. E. Pray.		
Barry	8 days	J. C. Ketcham	F. D. Smith	C. G. Wade.		
Bay	15 days	C. W. Hitchcock	C. H. Gurney	I. A. Beddow.		
Benzie	*3 days	M. S. Gregory	H. R. Pattengill	Jas. H. Thompson.		
Branch	15 days	M. W. Wimer	F. J. Tooze	F. E. Andrews.		
Calhoun	10 days	Ernest Burnham	G. J. Edgcumbe	Eva Warriner	Mae Swartwout.	
	*3 days	Ernest Burnham, E. H. Lohr	S. B. Laird	W. H. French	Florence Marsh.	
Cass	8 days	C. E. Cone	W. E. Conklin	C. E. Cone.		
Charlevoix	8 days	A. W. Chew	Jas. H. Thompson	E. F. Gee.		
Cheboygan	5 days	E. W. Baker	A. Hamlin Smith	J. M. Tice	E. W. Baker.	
	*3 days	E. W. Baker	H. R. Pattengill.			
Clare	5 days	Asa Aldrich	L. M. Kellogg	W. V. Sage.		
Clinton	*3 days	R. M. Winston	F. A. Barbour	Harriet Plunkett	Vernon J. Willey.	
Crawford	5 days	Flora Marvin	W. J. McKone	A. Hamlin Smith.		
Dickinson	*3 days	E. L. Parmenter	Charles McKenny	Delos Fall	D. B. Waldo.	
Eaton	*3 days	J. L. Wagner	S. B. Laird	Orr Schurtz	Mrs. F. D. Saunders.	
	*3 days	J. L. Wagner	H. R. Pattengill	Margaret Wise.		
Emmet	5 days	H. S. Babcock	E. T. Austin	G. A. McGee.		
Genesee	*3 days	J. H. Tyler	W. C. Hull	S. B. Laird	N. Boynton.	
	*3 days	J. H. Tyler	G. J. Edgcumbe	C. E. Holmes.		
Gladwin	20 days	Kate Borden	O. D. Thompson	Cora Crossman.		
Grand Traverse	8 days	Nettie C. Gray	I. B. Gilbert	Mary L. Berkey	Paul A. Cowgill.	
Gratiot	10 days	Retta Peet	W. H. French	G. A. McGee.		
Hillsdale	5 days	W. H. French	C. O. Hoyt	Margaret Wise	W. L. Shuart.	
Houghton	*3 days	F. M. Bradshaw, William Bath, R. H. Kirtland	W. H. Cheever	D. B. Waldo	C. O. Hoyt	Francis W. Parker.
Huron	*3 days	D. E. Spencer	C. H. Gurney	W. D. Henderson.		

* Inspiration institute.

TABLE XXI.—CONCLUDED.

Counties.	Term.	Local committees.	Conductors.	Instructors.	Instructors.	Instructors.
Ingham	15 days	Martin Hanlon	A. Hamlin Smith	Jessie Noyes.		
Ionia	13 days	L. A. Burhans	C. L. Bemis	C. O. Hoyt	E. A. Carpenter	L. A. Burhans.
Iosco	7 days	J. A. Campbell	W. L. Shuart	J. A. Campbell.		
Iron	*3 days	Thomas Conlin	Delos Fall	Charles McKenny.		
Isabella	5 days	O. L. Burdick	G. W. Loomis	F. L. Keeler.		
Jackson	*3 days	F. M. Harlow	H. R. Pattengill	C. T. Grawn	W. H. French	W. N. Ferris. / C. O. Hoyt.
Kalamazoo	*3 days	J. W. Hazard	G. J. Edgcumbe	Delos Fall	W. N. Ferris.	
Kalkaska	10 days	E. L. Luther	A. L. Marvin	Sophia A. Bunn.		
Kent	5 days	G. T. Chapel	F. D. Smith	F. L. Keeler	Mary L. Berkey	G. T. Chapel.
Keweenaw with Houghton. Lake	10 days	E. G. Johnson	George W. Loomis	E. G. Johnson.		
Lapeer	*3 days / *3 days	C. E. Palmerlee / C. E. Palmerlee	H. R. Pattengill / G. J. Edgcumbe	W. A. Coburn / Delos Fall	C. T. McFarlane. / James L. Hughes.	
Leelanau	10 days	J. O. Duncan	F. D. Smith	Mary L. Berkey.		
Lenawee	10 days	M. W. Hensel	C. E. Pray	J. W. Welch	Myra B. True.	
Livingston	8 days	J. H. Wallace	W. J. McKone	A. F. Doyle.		
Luce and Alger	5 days	A. D. Chisholm / Flora McLachlan	D. B. Waldo	James H. Kaye.		
Mackinac	8 days	W. H. Lewis	A. Hamlin Smith	J. M. Tice.		
Macomb	*3 days / 5 days	R. G. Crawford / R. G. Crawford	Charles McKenny / W. J. McKone	C. T. McFarlane. / O. I. Woodley.		
Mason	13 days	S. A. Louden	H. T. Blodgett	Lena Hansen	Cora Shackelton.	
Mecosta	*3 days	A. B. Lightfoot	C. O. Hoyt	James B. Angell	C. T. McFarlane	D. E. McClure.
Menominee	13 days	Jesse Hubbard	R. D. Bailey	Jesse Hubbard.		
Midland	*3 days	W. E. Culver	W. J. McKone	H. R. Pattengill	Lois Wilson.	
Missaukee	4 days	E. S. Hall	W. D. Henderson	M. F. Scott.		
Monroe	5 days	S. H. Langdon	O. G. Frederick	Florence Marsh.		
Montmorency	13 days	J. H. Briley	N. H. Hayden	J. H. Briley.		
Muskegon	9 days	H. B. Carr	H. C. Lott	F. J. Hendershott.		
Newaygo	*3 days	F. C. Stillson	C. T. Grawn	C. T. McFarlane.		
Oakland	11 days	H. S. Elliott	C. E. Holmes	R. B. Dean	A. L. Craft.	
Oceana	9 days	Vesta B. Smith	C. E. Pray	H. A. Lewis.		
Ogemaw	5 days	Ben Bennett	A. Hamlin Smith	Mrs. Ben Bennett.		
Osceola	*3 days	J. H. Thompson	E. F. Gee	Julia A. Dean	Fannie I. Allen.	
Oscoda	5 days	S. J. Lewis	A. Hamlin Smith	Ruth VanBuskirk	S. J. Lewis.	
Otsego	13 days	R. D. Bailey	Jesse Hubbard.			
Presque Isle	5 days	E. Erskine	A. Hamlin Smith	Martin Nester.		
Roscommon	8 days	E. G. Payne	Robert E. Barbour	Ella Kyle Loflin.		
Saginaw	*2 days / *3 days	E. C. Warriner / J. J. Marshall	C. O. McMurry / H. R. Pattengill	James L. Hughes / C. T. McFarlane	Zonia Baber. / Alice Marsh.	

St. Clair	8 days	R. S. Campbell	O. I. Woodley	C. T. McFarlane	Mary L. Berkey	W. F. Lewis.
	*1 day	R. S. Campbell	Margaret E. Wise.			
Schoolcraft	*3 days	J. A. Chisholm	H. R. Pattengill	D. B. Waldo.		
Shiawassee	*3 days	O. L. Bristol	G. W. Loomis	C. H. Horn	Lois Wilson.	
Tuscola	*3 days	P. G. Davis	C. T. Grawn	S. B. Laird	Alice Marsh.	
Van Buren	15 days	Wells G. Brown	W. E. Conklin	A. D. Prentice	J. A. O'Leary.	
Washtenaw	15 days	W. N. Lister	W. J. McKone	E. N. Rhodes.		
Wayne	*1 day	W. C. Martindale	B. A. Hinsdale	Charles Zueblin	Jessie Gaynor.	
	18 days	E. W. Yost	J. H. Kaye	C. B. Hall	Isabell N. Catlin.	
Wexford	8 days	C. C. Slemons	Smith Burnham	Myra B. True.		

* Inspiration institute.

TABLE XXII.

Enrollment at teachers' institutes for the calendar year 1900.

Counties.	Number of teachers required to supply schools.	Number enrolled.			Kinds and grades of certificates held by members.							Number without experience in teaching.	Number having received normal instruction.	Average attendance each half day.	Number of legally qualified teachers in county.	Percentage of teachers in county attending institutes.
		Men.	Women.	Total.	State.	Normal.	First.	Second.	Third.	City.	Special.					
Totals	13,267	1,668	5,977	7,645	132	282	211	2,106	2,498	307	66	1,722	871	5,211	†15,313	36
Alcona	30	18	33	51	.....	1	3	11	15	.....	1	20	5	44	42	74
Alger (see Luce)	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34	.....
Allegan	248	24	118	142	.....	1	2	40	52	.....	.....	47	5	89	347	24
Alpena	76	.....	77	77	.....	.....	1	13	23	.....	1	22	2	68	77	50
Antrim	105	7	22	29	.....	1	1	8	17	.....	.....	3	3	21	123	22
Arenac	55	—	—	—	—	—	—	—	—	.....	—	—	—	—	50	—
Baraga	26	7	25	32	.....	5	8	11	.....	.....	.....	8	9	29	32	75
Barry	184	32	98	130	.....	1	3	39	53	2	4	32	3	100	283	35
Bay	255	14	76	90	1	3	1	24	23	6	.....	27	6	48	260	72
Benzie	74	57	116	173	1	7	5	41	27	.....	1	80	9	157	94	87
Berrien	279	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	383	.....
Branch	181	24	54	78	1	.....	1	13	37	.....	1	29	8	65	160	33
Calhoun	308	*23	100	123	.....	3	2	40	51	.....	.....	27	15	85	272	35
		*58	147	205	13	10	9	81	43	.....	1	30	40	203		58
Cass	156	16	49	65	.....	2	.....	26	24	.....	.....	13	9	40	182	29
Charlevoix	97	18	59	77	.....	1	.....	22	33	.....	.....	28	3	59	120	47
Cheboygan	86	6	49	55	1	.....	1	15	22	2	2	14	3	51	110	40
		*24	60	84	2	4	5	32	25	5	1	10	11	67		95
Chippewa	97	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	104	.....
Clare	65	3	18	21	1	.....	.....	2	15	.....	.....	4	1	17	80	22
Clinton	170	31	89	120	.....	1	4	26	50	.....	.....	52	7	99	208	39
Crawford	31	5	24	29	1	2	.....	6	7	.....	.....	10	6	21	30	53
Delta	101	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	.....
Dickinson	76	17	83	100	9	24	6	24	18	40	1	8	51	82	99	82
Eaton	219	*30	81	111	1	2	.....	18	52	.....	.....	32	6	108	222	32
		*24	96	120	.....	19	.....	38	46	17	.....	3	25	87		52
Emmet	100	6	48	54	.....	.....	2	16	25	.....	.....	1	3	31	131	33
Genesee	257	*48	162	210	1	3	7	67	58	.....	.....	10	.....	142	338	40
		20	95	115	.....	2	4	41	51	.....	.....	19	6	72		29

Gladwin	46	11	41	52	.....	.....	.....	15	12	.....	.....	24	.....	37	43	63
Gogebic	82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	92	.....
Grand Traverse	120	5	75	80	.....	3	2	27	30	4	.....	17	6	51	182	36
Gratiot	179	23	75	98	.....	2	1	27	49	.....	1	21	11	77	185	43
Hillsdale	219	47	140	187	7	5	1	58	75	.....	1	45	15	160	313	45
Houghton	273	28	208	236	5	60	13	60	50	.....	1	3	102	200	256	74
Huron	154	34	113	147	8	5	6	51	37	.....	.....	21	19	130	184	58
Ingham	252	16	84	100	.....	3	1	18	51	.....	.....	21	3	64	275	26
Ionia	225	—	—	—	—	—	—	—	—	.....	—	—	—	—	240	—
Iosco	56	3	27	30	1	1	.....	10	10	.....	.....	7	5	18	57	39
Iron	40	—	—	—	—	—	—	—	—	.....	—	—	—	—	52	—
Isabella	128	23	90	112	2	4	2	30	35	.....	.....	40	80	88	274	26
Jackson	271	83	278	361	.....	13	13	.....	49	15	32	34	62	—	353	34
Kalamazoo	271	106	55	161	5	9	2	50	59	.....	.....	36	15	130	290	43
Kalkaska	57	20	50	70	1	2	2	13	22	.....	.....	29	10	48	80	50
Kent	652	{*— { 26	—	—	—	—	—	—	—	.....	—	—	—	— 171	703	{— { 21
Keweenaw (united with Houghton)	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....
Lake	45	10	34	44	.....	.....	2	10	12	.....	1	22	4	27	48	52
Lapeer	185	{*32 {*20	101 74	133 94	10 1	.....	1 3	63 36	39 40	.....	.....	20 8	11 10	128 80	216	{52 {40
Leelanau	66	4	27	31	.....	.....	.....	11	13	.....	.....	10	1	29	58	41
Lenawee	298	27	126	153	3	4	.....	28	85	1	1	31	11	—	366	—
Livingston	166	26	102	128	.....	1	2	37	58	.....	.....	38	6	85	267	36
Luce and Alger	16	7	43	50	1	6	6	16	12	.....	9	.....	6	40	18	96
Mackinac	28	7	22	29	.....	.....	.....	9	9	1	.....	10	2	18	56	34
Macomb	175	{*25 { 36	68 84	93 120	9 3	4 1	4 5	31 45	21 29	.....	.....	10 44	11 11	90 84	188	{37 {44
Manistee	159	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	129	.....
Marquette	192	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	205	.....
Mason	113	8	68	76	.....	.....	.....	12	37	2	.....	35	3	54	143	36
Mecosta	137	72	160	232	3	.....	4	65	74	9	.....	74	4	195	209	74
Menominee	136	5	65	70	.....	.....	.....	12	28	.....	.....	34	5	60	148	27
Midland	93	—	—	—	—	—	—	—	—	.....	—	—	—	—	109	—
Missaukee	63	13	49	62	.....	2	.....	19	24	.....	.....	17	12	48	76	60
Monroe	177	32	84	116	.....	1	2	49	40	.....	.....	32	2	85	260	35
Montcalm	203	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	242	.....
Montmorency	21	2	10	12	.....	1	.....	5	3	.....	.....	3	4	7	29	31
Muskegon	225	13	56	69	.....	3	4	17	23	1	.....	23	7	48	286	16
Newaygo	138	21	72	93	1	5	.....	39	40	.....	1	12	10	73	164	52
Oakland	296	22	97	119	1	3	4	44	42	.....	1	24	10	—	321	30
Oceana	110	24	62	86	2	3	1	22	30	.....	1	24	7	—	148	40
Ogemaw	48	13	35	48	.....	.....	2	15	23	.....	.....	8	1	49	46	87

— The blanks used indicate no data received.
* Inspiration institute.
† That this column is frequently less than the first, is due to the fact that some counties do not count city teachers.

TABLE XXII.—CONCLUDED.

Counties.	Number of teachers required to supply schools.	Number enrolled.—			Kinds and grades of certificates held by members.							Number without experience in teaching.	Number having received normal instruction.	Average attendance each half day.	Number of legally qualified teachers in county.	Percentage of teachers in county attending institutes.
		Men.	Women.	Total.	State.	Normal.	First.	Second.	Third.	City.	Special.					
Ontonagon	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29	.....
Osceola	128	40	120	160	4	13	2	43	43	.....	1	55	22	150	174	61
Oscoda	15	9	14	23	.....	.....	1	1	6	.....	.....	16	.....	15	16	50
Otsego	50	8	30	38	.....	1	.....	4	12	.....	.....	20	2	22	66	26
Ottawa	225	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	250	.....
Presque Isle	40	15	9	24	.....	.....	.....	7	10	.....	2	5	.....	19	28	68
Roscommon	15	.....	11	11	.....	.....	.....	.....	6	.....	.....	5	.....	8	18	30
Saginaw	412	19 *48	57 289	76 337	4 10	.....	4 32	36 41	14 28	.....	.....	19	2 35	71 —	481	12 59
St. Clair	272	27 *33	193 155	220 188	.....	3 5	.....	71 50	78 80	7 24	.....	61	9 18	164 165	362	44 46
St. Joseph	193	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	192	.....
Sanilac	181	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	157	.....
Schoolcraft	35	7	36	43	2	6	1	18	14	.....	.....	3	16	40	52	79
Shiawassee	209	30	91	121	4	1	2	45	55	.....	.....	33	13	74	166	64
Tuscola	194	22	90	112	2	6	12	49	40	.....	.....	5	9	87	223	48
Van Buren	216	17	69	86	2	1	.....	28	33	.....	.....	22	3	67	240	27
Washtenaw	305	3	81	84	.....	1	1	29	27	.....	.....	28	15	66	285	20
Wayne	1,186	*—	—	—	—	—	—	—	—	.....	—	—	—	—	1,228	—
		28	82	110	1	2	2	31	28	.....	1	45	20	75		5
Wexford	125	7	41	48	.....	1	2	16	5	.....	.....	19	5	29	136	18

— The blanks used indicate no data received.
* Inspiration institute.

TABLE XXIII.

County boards of school examiners for 1899–1900.

(The first named in each county is commissioner.)

County.	Name.	Address.	Occupation.
Alcona	L. Frederick	Gustin	Teacher.
	E. G. Holmes	Alcona	Teacher.
	Margaret LaChapelle	Harrisville	Teacher.
Alger	Flora McLachlan	Grand Marais	Asst. P. M.
	S. H. Ostrander	Onota	Teacher.
	H. G. Warne	Munising	Teacher.
Allegan	J. E. McDonald	Allegan	Teacher.
	Nellie Lewis Wilder	Otsego	Teacher.
	Chas. F. Bacon	Fennville	Teacher.
Alpena	E. L. Little	Alpena	Clergyman.
	E. H. Fox	Long Rapids	Teacher.
	Fred D. Smith	Long Rapids	Teacher.
Antrim	J. R. Jenkins	Mancelona	Teacher.
	F. J. Wheeler	Alba	Teacher.
	H. S. Roberts	Central Lake	Teacher.
Arenac	Julia A. Inglis	Au Gres	Teacher.
	George H. Glasure	Sterling	Teacher.
	R. B. Brown	Omer	Teacher.
Baraga	M. J. McKanna	Baraga	Teacher.
	Kate Curry	L'Anse	Teacher.
	Helen O'Connor	L'Anse	Teacher.
Barry	John C. Ketcham	Hastings	Teacher.
	Wm. E. Webb	Middleville	Teacher.
	S. W. Smith	Woodland	Teacher.
Bay	C. W. Hitchcock	West Bay City	Lawyer.
	W. A. Collins	North Williams	Teacher.
	J. B. Laing	West Bay City	Teacher.
Benzie	Myron S. Gregory	Honor	Teacher.
	W. E. Daines	Honor	Teacher.
	A. Gertrude Northrop	Thompsonville	Teacher.
Berrien	C. D. Jennings	St. Joseph	
	W. C. Stebbins	Coloma	Teacher.
	C. E. Swem	Hollywood	Teacher.
Branch	M. W. Wimer	Coldwater	Teacher.
	O. S. Bathrick	California	Teacher.
	J. B. Foote	Coldwater	
Calhoun	Ernest Burnham	Marshall	Teacher.
	Frank D. Miller	Burlington	Teacher.
	A. J. Flint	Tekonsha	Teacher.
Cass	C. E. Cone	Cassopolis	
	John Finley	Dowagiac	Teacher.
	Clifford N. Brady	Jones	Teacher.
Charlevoix	A. W. Chew	Bayshore	Farmer.
	A. F. Milford	South Arm	Teacher.
	J. M. Tice	Charlevoix	Teacher.
Cheboygan	E. W. Baker	Cheboygan	Teacher.
	P. F. McCormick	Wolverine	Teacher.
	George Irwin	Cheboygan	Teacher.
Chippewa	T. R. Easterday	Sault Ste. Marie	Clergyman.
	C. E. Richmond	Sault Ste. Marie	Teacher.
	Thos. B. Aldrich	Pickford	Teacher.
Clare	A. H. Aldrich	Clare	Teacher.
	C. B. Chaffee	Farwell	Teacher.
	S. J. Skinner	Harrison	Teacher.
Clinton	R. M. Winston	St. Johns	Teacher.
	J. B. Stone	DeWitt	Teacher.
	E. M. Plunkett	Ovid	Teacher.
Crawford	Flora M. Marvin	Grayling	Teacher.
	Mrs. J. Cobb	Frederic	Farmer.
	A. J. Graham	Grayling	Teacher.
Delta	P. R. Legg	Gladstone	Teacher.
	Rose Headstine	Escanaba	Teacher.
	Margaret Fleming	Escanaba	Teacher.
Dickinson	Ed. L. Parmenter	Iron Mountain	Lumberman.
	L. E. Amidon	Iron Mountain	Teacher.
	E. L. Parmerlee	Norway	
Eaton	Jos. L. Wagner	Charlotte	Teacher.
	C. G. Wade	Bellevue	Teacher.
	M. R. Parmelee	Charlotte	Teacher.
Emmet	H. S. Babcock	Harbor Springs	Editor.
	H. N. Crandall	Cross Village	Farmer.
	E. A. Botsford	Petoskey	Teacher.

TABLE XXIII.—CONTINUED.

County.	Name.	Address.	Occupation.
Genesee	John H. Tyler	Davison	Teacher.
	Henry A. Luce	Linden	Teacher.
	Mary Lyon	Atlas	Teacher.
Gladwin	Kate Borden	Gladwin	Teacher.
	Hugh A. Wagar	Gladwin	Teacher.
	Gertrude Reymore	Edenville	Teacher.
Gogebic	L. L. Wright	Ironwood	Teacher.
	A. E. Sterne	Bessemer	Teacher.
	Wm. I. Prince	Bessemer	Teacher.
Grand Traverse	Nettie C. Gray	Traverse City	Teacher.
	Wilkie A. White	Fife Lake	Editor.
	Mrs. Addie A. Gibbs	Mayfield	Bookkeeper.
Gratiot	Retta Peet	Ithaca	Teacher.
	J. M. Hoxie	Middleton	Teacher.
	M. E. Hull	St. Louis	Teacher.
Hillsdale	W. H. French	Hillsdale	Teacher.
	D. L. Clark	Allen	Teacher.
	H. L. Howe	Hillsdale	Teacher.
Houghton	Wm. Bath	Houghton	Accountant.
	Fred A. Jeffers	Atlantic Mine	Teacher.
	Angus W. Kerr	Calumet	Lawyer.
Huron	D. E. Spencer	Bad Axe	Teacher.
	E. Baskin	Ubly	Farmer.
	D. Karcher	Sebewaing	Teacher.
Ingham	Martin Hanlon	Williamston	Druggist.
	G. W. Harvey	Okemos	Teacher.
	F. E. Livrance	Williamston	Farmer.
Ionia	Levi A. Burhans	Ionia	Teacher.
	Geo. L. Jordan	Collins	Teacher.
	Chas. L. Bemis	Ionia	Teacher.
Iosco	J. A. Campbell	Whittemore	Teacher.
	W. H. Price	Whittemore	Teacher.
	C. M. Jansky	Au Sable	Teacher.
Iron	Thos. Conlin	Crystal Falls	Editor.
	Geo. D. Crippen	Iron River	Merchant.
	W. D. Hill	Crystal Falls	Teacher.
Isabella	O. L. Burdick	Mt. Pleasant	Teacher.
	F. L. Keeler	Mt. Pleasant	Teacher.
	Newman Smith	Blanchard	Teacher.
Jackson	F. M. Harlow	Springport	Teacher.
	Frank H. Brown	Brooklyn	Teacher.
	George R. Cain	Cedar Bank	Teacher.
Kalamazoo	J. W. Hazard	Kalamazoo	Teacher.
	B. R. Platt	Vicksburg	Teacher.
	A. M. Nutten	Alamo	Teacher.
Kalkaska	E. L. Luther	Kalkaska	Teacher.
	E. L. Beebe	Kalkaska	Teacher.
	Frank Leach	South Boardman	Teacher.
Kent	G. T. Chapel	Grand Rapids	Teacher.
	L. T. Herman	Caledonia	Teacher.
	A. R. Zimmer	Kent City	Teacher.
Keweenaw	F. M. Bradshaw	Central Mine	Teacher.
	Mary B. Richards	Allouez	Teacher.
	James Daley	Copper Falls	Teacher.
Lake	E. G. Johnson	Luther	
	Wm. P. Griffiths	Chase	Teacher.
	Vivian Montgomery	Luther	Teacher.
Lapeer	C. E. Palmerlee	Lapeer	Teacher.
	W. Frank Laughlin	Metamora	Teacher.
	Orvice La Bounty	North Branch	Teacher.
Leelanau	J. O. Duncan	Sutton's Bay	Teacher.
	S. E. Blackwood	Leland	Teacher.
	E. F. Carr	Empire	Teacher.
Lenawee	M. W. Hensel	Blissfield	Teacher.
	J. C. Howell	Blissfield	Teacher.
	Carl Parsons	Jasper	Teacher.
Livingston	Jas. H. Wallace	Fowlerville	Teacher.
	N. Knoolhuizen	Fowlerville	Teacher.
	C. J. Gannon	Cohoctah	Teacher.
Luce	T. M. Sawyer	Dollarville	Teacher.
	A. B. Chisholm	Newberry	Teacher.
	W. S. Hays	Newberry	Clergyman.
Mackinac	W. H. Lewis	St. Ignace	Teacher.
	W. J. Fessant	Gould City	Clerk.
	John R. Bailey	Mackinac Island	Physician.
Macomb	R. J. Crawford	Mt. Clemens	Teacher.
	E. R. Wilcox	New Haven	Teacher.
	A. E. Millett	Utica	Teacher.

TABLE XXIII.—CONTINUED.

County.	Name.	Address.	Occupation.
Manistee	Mrs. L. E. W. Hall	Manistee	Teacher.
	M. S. Hawes	Marilla	Farmer.
	George Crook	Bear Lake	Minister.
Marquette	F. D. Davis	Negaunee	Teacher.
	D. B. Waldo	Marquette	Teacher.
	H. B. Krogman	Negaunee	Teacher.
Mason	S. A. Louden	Ludington	Teacher.
	Iva Downing	Ludington	Teacher.
	Fred Ewald	Custer	Teacher.
Mecosta	A. B. Lightfoot	Big Rapids	Teacher.
	C. R. Foster	Barryton	Teacher.
	Don Harrington	Millbrook	Teacher.
Menominee	Jesse Hubbard	Menominee	
	C. M. Case	Hermansville	Accountant.
	Luman Burch	Stephenson	Teacher.
Midland	W. E. Culver	Midland	Teacher.
	G. L. Jenner	Midland	Teacher.
Missaukee	Wm. Buck	Coleman	Teacher.
	E. S. Hall	Lake City	Teacher.
	Orville Dennis	Lake City	Editor.
	Fred Bartholomew	Lake City	Teacher.
Monroe	S. H. Langdon	Monroe	Student.
	P. H. Marron	Monroe	Teacher.
	J. J. Kelley	Carleton	Teacher.
Montcalm	Eugene D. Straight	Stanton	Teacher.
	H. J. Wilson	Edmore	Teacher.
	F. D. Smith	Greenville	Teacher.
Montmorency	James H. Briley	Hetherton	Teacher.
	J. W. Farler	Hillman	Teacher.
	E. M. Hutchinson	Lewiston	Teacher.
Muskegon	H. B. Carr	Whitehall	Teacher.
	N. R. Dryer	Holton	Teacher.
	D. A. Seaman	Bailey	Teacher.
Newaygo	F. C. Stillson	Fremont	Teacher.
	John Harwood	White Cloud	Lawyer.
	Jas. W Alvord	Grant	Teacher.
Oakland	H. S. Elliot	Oxford	Teacher.
	H. H. Snowdon	Pontiac	Teacher.
	H. S. Gardner	Royal Oak	Teacher.
Oceana	Vesta B. Smith	Shelby	Teacher.
	H. A. Lewis	Pentwater	Teacher.
	L. G. Fairchild	Hesperia	Teacher.
Ogemaw	Ben Bennett	West Branch	Teacher.
	W. S. Karcher	Rose City	Teacher.
	E. H. Woughter	West Branch	Merchant.
Ontonagon	A. C. Adair	Rockland	Teacher.
	Clair Williams	Rockland	Teacher.
	F. A. Stiles	Rubicon	Teacher.
Osceola	Jas. H. Thompson	Evart	Teacher.
	Myron Jerome	Leroy	Teacher.
	Geo. O. Roxburgh	Marion	Teacher.
Oscoda	Sim J. Lewis	Mio	Teacher.
	Ethel Crawford	Red Oak	Housekeeper.
	Eliza Devarmond	Mio	Teacher.
Otsego	R. D. Bailey	Gaylord	Teacher.
	Vesta G. Lanning	Gaylord	Lawyer.
	Carrie G. Martindale	Gaylord	Teacher.
Ottawa	Lewis P. Ernst	Coopersville	Teacher.
	Leonard Rens	Zeeland	Teacher.
	Nelson Stanton	Forest Grove	Teacher.
Presque Isle	Ed. Erskine	Rogers City	Physician.
	W. Caldwell	Rogers City	Physician.
	C. W. Isanniger	Rogers City	Druggist.
Roscommon	E. G. Payne	Roscommon	Druggist.
	Adelia McCrea	Roscommon	Teacher.
	H. H. Woodruff	Roscommon	Lawyer.
Saginaw	W. G. Graham	Saginaw, W. S	Teacher.
	Jas. E. McDonald	Buena Vista	Teacher.
	Jas. B. Griffin	Carrollton	Teacher.
St. Clair	R. S. Campbell	Port Huron	Teacher.
	E. T. Blackney	Capac	Teacher.
	W. F. Lewis	Port Huron	Teacher.
St. Joseph	John Evert	Mendon	
	C. D. Mosher	Centreville	Bank Clerk.
	Geo. D. Long	Three Rivers	Teacher.
Sanilac	H. A. Macklem	Marlette	
	Geo. Meredith	Sanilac Center	Teacher.
	John H. Hands	Port Sanilac	Teacher.

TABLE XXIII.—CONCLUDED.

County.	Name.	Address.	Occupation.
Schoolcraft	J. A. Chisholm	Seney	Teacher.
	C. W. Dunton	Manistique	Attorney.
	Mrs. E. B. Patterson	Manistique	Housekeeper.
Shiawassee	O. L. Bristol	Corunna	Teacher.
	H. E. Slocum	Kirby	Teacher.
	Stella Potter	Bancroft	Teacher.
Tuscola	P. G. Davis	Mayville	Teacher.
	H. Z. Wilber	Millington	Teacher.
	E. J. Darbee	Caro	Teacher.
Van Buren	W. G. Brown	Paw Paw	Teacher.
	R. S. Howland	Breedsville	Teacher.
	James Chamberlain	Decatur	Teacher.
Washtenaw	W. N. Lister	Ann Arbor	Teacher.
	A. D. DeWitt	Dexter	Teacher.
	Wirt I. Savery	Salem	Student.
Wayne	E. W. Yost	Wyandotte	Teacher.
	Frank Cody	Delray	Teacher.
	Wm. Lightbody	Woodmere	Teacher.
Wexford	C. C. Slemons	Sherman	Teacher.
	J. H. Kaye	Cadillac	Teacher.
	E. E. Carpenter	Harrietta	Teacher.

TABLE XXIV.

General statistics of educational institutions compiled from reports of officers for the academic year 1899-1900.

Name of institution.	Location.	Name of president, superintendent or principal.	Date of organization.	No. of instructors.	No. of students or inmates during the year.	No. of graduates at last commencement.	Whole number of graduates since founded.	No. of volumes in library.	No. of volumes added to library during year.
ESTABLISHED BY ACTS OF LEGISLATURE.									
Educational:									
Central State Normal School	Mt. Pleasant	Charles T. Grawn	1895	25	456	130	380	3,700	1,860
Michigan Agricultural College	Lansing	J. L. Snyder	1857	49	627	22	820	21,581	33
Michigan College of Mines	Houghton	F. W. McNair	1885	17	121	19	153	15,366	1,126
Michigan State Normal College	Ypsilanti	Elmer A. Lyman	1849	51	1,421	302	3,909	21,500	500
Northern State Normal School	Marquette	Dwight B. Waldo	1899	6	91	3	3	1,000	1,000
University of Michigan	Ann Arbor	James B. Angell	1837	227	3,441	743	17,025	145,000	11,607
Charitable:									
Industrial Home for Girls	Adrian	Lucy M. Sickels	1879	33	307	.....	.....	800	.....
Industrial School for Boys	Lansing	J. E. St. John	1855	† 52	667	.....	.....	3,000	200
School for the Blind	Lansing	E. P. Church	1880	11	124	.....	.....	3,500	.....
School for the Deaf	Flint	Francis D. Clarke	1854	41	431	19	1,304	4,178	578
State Public School	Coldwater	John B. Montgomery	1871	† 43	375	.....	‡ 4,807	2,388	105
INCORPORATED UNDER ACT 39, LAWS OF 1855.									
Denominational Colleges:									
Adrian College	Adrian	G. B. McElvay	1859	13	170	8	489	6,450	99
Albion College	Albion	John F. Ashley	1861	25	475	41	900	16,000	1,000
Alma College	Alma	A. T. Bruske	1887	19	271	5	56	16,569	527
*Battle Creek College	Battle Creek	E. A. Sutherland	1874	25	300	.....	.....	3,500	200
Detroit College	Detroit	James D. Foley	1881	15	220	11	151	11,200	100
Hillsdale College	Hillsdale	George F. Mosher	1855	20	389	22	971	13,515	366
Hope College	Holland	G. J. Kollen	1866	14	162	38	225	15,000	42
Kalamazoo College	Kalamazoo	A. Gaylord Slocum	1855	14	232	19	278	10,761	323
Olivet College	Olivet	Willard G. Sperry	1859	25	254	21	500	26,000	.....

* As this college only trains for christian workers there are no graduating classes.
† Including employes.
‡ Placed in homes.

TABLE XXIV.—CONCLUDED.

Name of institution.	Location.	Name of president, superintendent or principal.	Date of organization.	No. of instructors.	No. of students or inmates during the year.	No. of graduates at last commencement.	Whole number of graduates since founded.	No. of volumes in library.	No. of volumes added to library during year.
INCORPORATED UNDER ACT 39, LAWS OF 1855.									
Academies and Seminaries:									
Academy of the Ladies of the Loretto	Sault Ste. Marie	Mother M. J. Christina	1898	7	50	.....	.....	500	.....
Academy of the Sacred Heart	Grosse Pointe	I. C. Gavin	1889	20	60	7	.....	.....	.....
Academy of the Sacred Heart	Detroit	Anna Hutton	1850	12	60	4	.....	2,250	50
Akeley Institute	Grand Haven	Margaretta Cheyney	1889	8	26	6	39	1,500	30
Benzonia College	Benzonia	J. Frank Jackson	1858	7	49	2	7	6,000	350
Detroit Home and Day School	Detroit	Ella M. Liggett	1882	29	310	17	209	1,500	25
Detroit School for Boys	Detroit	.....	.....	.....	.....	.....	.....	.....	.....
Detroit Seminary	Detroit	Mrs. E. F. Hammond, Miss L. C. Browning	1859	13	132	6	226	3,000	200
Detroit University School	Detroit	.....	.....	.....	.....	.....	.....	.....	.....
Holy Rosary Academy	Essexville	Mother M. Gonsalva	1892	4	42	2	6	300	10
Michigan Female Seminary	Kalamazoo	John Gray	1855	9	35	3	.....	2,000	10
Michigan Military Academy	Orchard Lake	J. Sumner Rogers	1877	14	141	18	330	8,000	50
Nazareth Academy	Kalamazoo	Sr. M. Anthony Nolan	1897	12	37	.....	1	5,000	1,472
Raisin Valley Seminary	Adrian	Jay Hoag	1850	5	32	.....	155	650	.....
St. Mary's Academy	Monroe	Mother M. Justina	1890	20	223	3	82	3,194	122
St. Mary's School	Sault Ste. Marie	Sister M. Francis	1898	5	372	18	18	500	.....
Seminary of the Felician Sisters	Detroit	Mother Bruńona Pydynkowska	1882	8	125	8	91	1,603	35
Spring Arbor Seminary	Spring Arbor	David S. Warner	1880	6	97	12	149	600	10
Theological School Christian Reformed Church	Grand Rapids	Garrit K. Hemkes	1876	5	47	7	83	1,000	90
Ursuline Academy	St. Ignace	Mother Angela	1899	6	80	.....	.....	300	50
Professional Schools:									
Detroit College of Law	Detroit	Philip T. Van Zile	1893	20	158	49	242	10,000	.....
Detroit College of Medicine	Detroit	T. A. McGraw	1885	101	407	110	1,200	.....	.....
Detroit Homeopathic College	Detroit	C. C. Miller	1874	30	35	7	.....	.....	.....
Grand Rapids Medical College	Grand Rapids	Clarence H. White	1897	27	57	12	29	200	50
Michigan College of Medicine and Surgery	Detroit	.....	.....	.....	.....	.....	.....	.....	.....
Saginaw Valley Medical College	Saginaw	L. W. Bliss	1896	26	83	29	69	.....	.....
Sprague Correspondence School of Law	Detroit	.....	.....	.....	.....	.....	.....	.....	.....

Schools with Normal and Business Course:									
Bay City Business College	Bay City	R. R. Lane	1898	4	173			34	4
Benton Harbor College	Benton Harbor	G. J. Edgcumbe	1892	15	334	16	253	1,250	100
Cleary's Business College	Ypsilanti								
Fenton Normal School and Commercial College	Fenton	C. H. Clemmer	1898	11	88	12		500	
Ferris Institute	Big Rapids	W. N. Ferris	1894	11	1,350	38	299	700	55
Grand Rapids Business University	Grand Rapids	A. S. Parish	1897	3	146	6			
International Business College	Saginaw	F. H. Harper	1898	6	243	6	17		
Lansing Business University	Lansing	H. J. Beck	1897	3	97	2	10		
Ludington Business College	Ludington	W. H. Martindill	1898	3	95	35	90	75	15
Michigan Business and Normal College Company	Battle Creek								
Three Rivers Business Academy and Normal School	Three Rivers	Charles H. Sage	1899	4	89	3		225	25

† Including 50 orphans.

TABLE XXV.

Financial statistics of educational institutions compiled from reports of officers for the academic year 1899–1900.

Name of institution.	Annual cost of tuition per student.	Average cost of board per week.	Total average annual cost to each student.	Total aver. annual cost of each student to the State.	Estimated value of grounds, buildings, library, apparatus, etc.	Amount of productive funds.	Income from productive funds.	Amount of legislative appropriation for 1900.	Receipts from tuition fees during the year.	Receipts from all other sources.	Current expenses for the year.	Expenses for permanent improvement.	Liabilities.
ESTABLISHED BY ACTS OF LEGISLATURE.													
Educational:													
Central State Normal School	$9 00	$2 00	$150 00	$58 10	$25,000 00	.....	.....	$25,000 00	$1,500 00	.....	$26,500 00	.....	.....
Michigan Agricultural College	.....	2 08	126 90	.....	500,115 00	$904,460 00	$63,312 30	10,500 00	275 00	$55,321 91	106,256 98	$55,000 00	.....
Michigan College of Mines	25 00 / *150 00	6 25	400 00 / *525 00	361 57	252,655 56	.....	.....	43,750 00	3,885 00	6,905 50	54,540 50	.....	.....
Michigan State Normal College	9 00	2 50	175 00	59 00	331,148 60	71,000 00	.....	69,799 92	8,603 00	1,605 00	.....	.....	.....
Northern State Normal School	9 00	3 00	117 00	.....	50,000 00	.....	.....	7,500 00	507 00	2,500 00	.....	.....	.....
University of Michigan	55 00	4 50	350 00	70 00	2,052,815 93	545,946 00	37,500 00	285,275 00	184,726 47	47,122 43	461,116 73	47,753 09	$5,300 00
Charitable:													
Industrial Home for Girls	.....	60	.....	115 00	202,894 24	.....	.....	44,353 00	.....	2,811 80	55,441 54	4,281 90	.....
Industrial School for Boys	.....	48	.....	113 00	259,025 00	.....	.....	60,000 00	.....	5,916 80	64,747 28	26,500 00	.....
School for the Blind	.....	3 08	.....	277 93	200,000 00	.....	.....	28,115 00	.....	2,491 60	32,618 17	1,978 00	.....
School for the Deaf	53 18	1 05	.....	183 49	499,946 71	.....	.....	75,250 00	.....	49,258 06	83,363 02	61,271 06	.....
State Public School	.....	63	.....	27 13	250,000 00	.....	.....	31,000 00	.....	4,325 73	31,000 00	$2,000 00	.....
INCORPORATED UNDER ACT 39, LAWS OF 1855.													
Denominational Colleges:													
Adrian College	45 00	2 50	171 00	.....	125,000 00	76,316 98	3,500 00	.....	6,750 00	4,000 00	12,000 00	400 00	30,000 00
Albion College	24 00	2 00	140 00	.....	130,000 00	230,000 00	11,000 00	.....	14,814 12	34,900 00	33,000 00	4,175 00	70,000 00
Alma College	32 00	2 25	145 50	.....	162,992 22	225,000 00	13,000 00	.....	4,201 71	12,528 71	16,256 08	10,000 00	.....
Battle Creek College	40 00	.....	175 00	.....	150,000 00	.....	.....	.....	796 97	15,890 00	14,410 00	706 00	5,220 50
Detroit College	40 00	.....	40 00	.....	160,000 00	.....	.....	.....	6,000 00	.....	10,000 00	.....	43,000 00
Hillsdale College	22 00	1 75	175 00	.....	115,973 34	173,285 46	10,574 68	.....	2,228 42	136 93	13,490 72	544 99	.....
Hope College	18 00	2 50	200 00	.....	80,000 00	.....	.....	.....	.....	.....	.....	.....	.....
Kalamazoo College	25 50	2 25	200 00	.....	60,000 00	185,835 56	11,980 34	.....	6,716 29	3,109 65	21,811 95	.....	.....
Olivet College	45 00	2 25	135 00	.....	200,000 00	98,316 50	6,000 00	.....	11,000 00	20,000 00	37,000 00	.....	1,000 00
Academies and Seminaries:													
Academy of the Ladies of the Loretto	20 00	3 50	130 00	.....	24,500 00	.....	.....	.....	.....	.....	.....	500 00	8,000 00
Academy of the Sacred Heart	.....	.....	300 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Academy of the Sacred Heart	60 00	.....	.....	.....	.....	.....	.....	.....	3,000 00	.....	3,000 00	1,000 00	.....
Akeley Institute	30 00	3 00	250 00	.....	50,000 00	3,000 00	180 00	.....	6,567 30	3,478 47	9,703 73	.....	20,500 00
Benzonia College	30 00	2 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Detroit Home and Day School	90 00	12 00	600 00	.....	55,000 00	.....	.....	.....	22,000 00	16,000 00	30,000 00	14,000 00	7,500 00
Detroit School for Boys	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Detroit Seminary	90 00	10 00	600 00	.....	†2,500 00	.....	.....	.....	12,000 00	.....	12,000 00	550 00	.....
Detroit University School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Holy Rosary Academy	100 00	2 00	150 00	.....	12,000 00	.....	.....	.....	2,159 00	755 00	2,500 00	434 00	.....
Michigan Female Seminary	50 00	6 00	250 00	.....	100,000 00	.....	.....	.....	6,000 00	2,000 00	9,000 00	.....	12,000 00
Michigan Military Academy	1450 00	.....	600 00	.....	300,000 00	.....	.....	.....	.....	.....	.....	.....	.....
Nazareth Academy	100 00	2 50	200 00	.....	60,000 00	.....	.....	.....	3,700 00	.....	3,700 00	10,000 00	.....
Raisin Valley Seminary	16 00	2 00	96 00	.....	10,000 00	14,000 00	1,039 00	.....	503 29	.....	1,908 91	.....	.....
St. Mary's Academy	20 00	2 50	132 00	.....	96,579 00	.....	.....	.....	4,460 00	18,270 34	20,493 40	961 03	.....
St. Mary's School	5 00	.....	5 00	.....	11,000 00	.....	.....	.....	1,860 00	.....	1,600 00	260 00	.....
Seminary of the Felician Sisters	80 00	1 50	90 00	.....	57,000 00	.....	.....	.....	3,080 00	10,000 00	13,080 00	20,000 00	5,000 00
Spring Arbor Seminary	6 00	1 75	110 00	.....	7,000 00	5,000 00	.....	.....	1,250 00	200 00	1,500 00	.....	500 00
Theological School, Christian Reformed Church	26 00	3 25	200 00	.....	27,000 00	.....	.....	.....	1,222 00	7,500 00	7,000 00	100 00	7,000 00
Ursuline Academy	6 00	3 00	280 00	.....	10,000 00	.....	.....	.....	500 00	200 00	700 00	.....	2,500 00
Professional Schools:													
Detroit College of Law	50 00	.....	.....	.....	.....	27,500 00	1,325 00	.....	8,216 96	71 80	6,444 09	575 00	3,145 00
Detroit College of Medicine	60 00	4 00	220 00	.....	76,000 00	.....	.....	.....	36,529 00	11,900 00	41,990 00	2,840 00	40,000 00
Detroit Homeopathic College	60 00	3 50	309 00	.....	10,000 00	.....	.....	.....	3,000 00	.....	2,500 00	2,500 00	.....
Grand Rapids Medical College	85 00	4 00	215 00	.....	32,490 57	.....	.....	.....	4,640 00	200 00	3,000 00	400 00	1,600 00
Michigan College of Medicine and Surgery	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saginaw Valley Medical College	90 00	3 25	210 00	.....	40,000 00	.....	.....	.....	6,825 00	877 00	7,726 00	.....	10,500 00
Sprague Correspondence School of Law	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schools with Normal and Business course:													
Bay City Business College	66 00	3 00	230 00	.....	5,000 00	.....	.....	.....	3,803 80	562 41	3,260 34	.....	.....
Benton Harbor College	36 00	2 00	108 00	.....	55,000 00	.....	.....	.....	6,500 00	.....	6,500 00	200 00	.....
Cleary's Business College	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fenton Normal School and Commercial College	60 00	1 75	165 00	.....	10,000 00	.....	.....	.....	.....	.....	.....	200 00	1,200 00
Ferris Institute	37 80	2 00	150 00	.....	35,000 00	.....	.....	.....	20,938 80	.....	14,000 00	350 00	.....
Grand Rapids Business University	75 00	3 50	90 00	.....	.....	.....	.....	.....	3,061 00	308 52	2,630 46	.....	.....
International Business College	75 00	2 75	235 00	.....	3,040 00	.....	.....	.....	6,633 64	.....	3,838 88	740 00	.....
Lansing Business University	85 50	3 00	250 00	.....	.....	.....	.....	.....	3,136 50	.....	2,746 00	246 00	.....
Ludington Business College	12 92	2 50	112 92	.....	2,500 00	.....	.....	.....	1,227 90	80 00	500 00	40 00	400 00
Michigan Business and Normal College Company	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Three Rivers Business Academy and Normal School	32 00	2 50	124 00	.....	10,000 00	.....	.....	.....	950 00	730 00	1,500 00	180 09	2,000 00

* Non-resident students.
† Value of library and apparatus. Buildings rented.
‡ Including board, etc.
§ Estimated.

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